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Effect the Leadership and Role of Agricultural Extension Workers to the Preparation of Difinitive Plan, Needs Plan of Groups and Dynamism of Farmer Groups

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ABSTRACT

This study was conducted to analyze the effect of leadership and role of agricultural extension workers in the preparation of the difintive plant of group (DPG) and difinitive need plant of group (DPNG) and dynamism farmer groups. The reserch was conducted in Majalengka, Sumedang and Garut, West Java since May till October 2014. The respondents were determined by using simple random sampling technique. The farmer groups in each district were selected 78 of 392 farmers for research respondent and 15 farmers for the validity and reliability test. The data were analyzed with descriptive statistical technique and inferential statistics such as path analysis. The results showed that only one of four leadership indicators that was carrier member aspiration, affected the preparation of DPG and DPNG. Whereas the indicators of agricultural extension workers affecting to the preparation of DPG and DNPG were spreader of agricultural products and impeller of increasing production. The variable affecting diretly to the preparation of the DPG and DNPG was the role of agricultural extension. Whereas the three variables (leadership, role of agricultural extension, and preparation of DPG-DNPG) significant ly influenced on the dynamics of farmer groups, more synergic the variables more dynamic the farmer groups.

KEYWORDS : Farmer Group, Leadership, Agricultural Extension, Farmer Group dynamic.

Introduction

The main program of Indonesian agricultural development is to increase the Food Security and Agribusiness Development. Both of these programs are basically an attempt to increase food availability, national food security, through the availability of sufficient food, both in quantity and quality , and at affordable prices for all economic levels of society. Food security is a shared responsibility between the government and society. To realize the food security program, especially the provision of food, should be drawn up plans /targets yearly. Farmers as the main actors of agricultural development through consultation preparing Definitive Plan of Groups (DPG) which is the work plan of the farm farmer groups for a period of one year contains details of activities and mutual agreement in farm management. DNPG should be further elaborated by a group of farmers in the Definitive Needs Plant Group (DNPG) which is a formulation tool to meet the needs of the means of production and agricultural machinery, either by credit / capital farming for farmers group members who need or of self-financing farmers.

Preparation of the DPG and DNPG of farmer can not be separated from their leadership in organizing the implementation of farmer groups such activities. Therefore, one important factor for their ctivities is the head leadership of the farmer groups. The head of faemer group can be conswidered as the primary agent for the effectiveness of the group, because of its strategic role in influencing or moving the members in the group to achieve the objectives of the group and members. According Yunasaf (2005), there are four important indicators of head leadership viewed in terms of: (1) the strength of expertise, (2) the strength of the referral, (3) carrier aspirations, and (4) be a partner agent reformer, with the passage of leadership in farmer groups, it will be possible to achieve the effectiveness of the farmer groups.

In addition to the leadership of farmer groups, the role of agricultural extension is also very important in the preparation of the DNPG and DNPG. This is because the ability of farmers in planning is still limited, the agricultural extension needs to accompany and guide farmers to arrange, so plans were drawn up in accordance with the needs and abilities of farmers in carrying out their farming activities. Synergy between the leadership of farmer groups, the role of agricultural extension is expected to ease in planning activities of farmer groups as outlined in the DPG and DNPG and ultimately have an impact on the dynamics of the farmer groups.

These phenomena above gave rise to a variety of questions about how to influence farmers' group leadership and the role of agricultural extension for the preparation of the DNPG and DNPG which in turn resulted in increased ability of the farmer groups. One way to answer these questions is through in-depth assessment of these problems. Based on these problems can be formulated some questions that are answered in this study are:

1. The extent to which the leadership of farmer groups and the role of agricultural extension for the preparation of the DPG-DNPG?
2. How far the dynamic level of farmer groups in carrying out farming activities?
3. The extent to which the leadership of farmer groups, the role of agricultural extension and the preparation of the DNPG and DNPG together against the dynamism of farmers' groups?

The Research on DNPG-DNPG aimed to study on:

1. Analyze the influence of farmer groups and the leadership role of agricultural extension in the preparation of the DNPG and DNPG farmer groups.
2. Analyze the influence of farmer groups and the leadership role of agricultural extension for the preparation of the DNPG-DNPG and dynamism farmer groups.

Leadership Farmer groups have sufficient urgency is important to the development of a group of farmers. Sometimes reciprocation of a group of farmers affected by the size of the contribution and the activity of the leaders who are in the farmer group. Not infrequently the destruction of farmer groups are also influenced by the leadership who abuse the trust and authority they have. Ideally farmer groups led by a leader (contact farmer) that can foster group dynamics. Farmer groups can not be separated from their participation in the agricultural extension guiding and fostering farmer groups. Agricultural extension has a role in bridging between the conditions faced by farmers in farmer groups to circumstances beyond the farmer group. One is in the preparation of a definitive plan of activities organized farmer groups as a form of planned activities for the year farmers group that contains details of activities and mutual agreement in farm management and definiif plan as the basic needs of farmers group procurement plans and services from the combined group of farmers.

This study was conducted to see and describe how much influence these two important components in drafting the DNPG-DNPG that the end goal is a dynamic and growing farmer groups. The variables were observed in this study is Leadership farmer groups (X_1) and the Role of Agricultural Extension (X_2) as

exogenous, as well as preparation of the DNPG-DNPG (Y_1) and group dynamics (Y_2) as an endogenous variable. Frame of this study can be seen in Figure 1.

Research Hypothesis

Based on the previous description, the hypothesis developed in this study were as major and minor hypothesises. The major hypothesis, there is a direct or indirect influence of leadership farmer groups, the role of agricultural extension, the preparation of the DNPG-DNPG against farmers group dynamics. The minor hypothesis, a. there is a direct or indirect influence of the leadership of farmer groups in the preparation of the DNPG-DNPG, b. there is a direct or indirect influence of the role of agricultural extension in the preparation of the DNPG-DNPG, and c. there is a direct or indirect influence of the preparation of the DNPG-DNPG against farmers group dynamics.

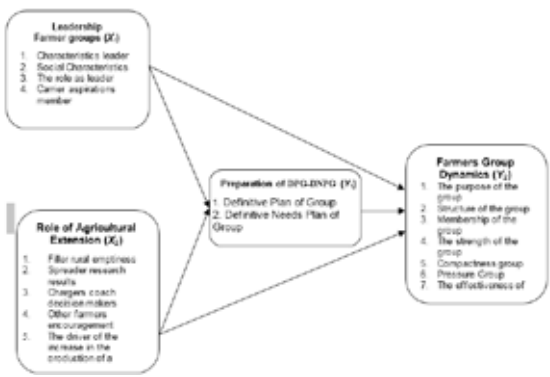

Figure 1. Framework thought leadership study the influence of farmer groups and the role of agricultural extension for the preparation of the DPG-DNPG and dynamism farmer groups

Location and Time Research

The research was conducted in farmer groups at the district of Majalengka, Sumedang, and Garut West Java. Site selection was done with the consideration that the farmer group has organizational structure complete, active agricultural extension and active farmer groups. The district has had Counseling Agency in accordance with Act No. 16 of 2006. The researches were conducted for six months at May untill October 2014.

Research Design

The basic method used in this study was a survey, which was a fast method of data collection using questionnaires from a group of people or a sample. Survey research focused on the study of the relationship of relational study variables, thus directly or questionable research hypothesis (Singarimbun and Effendi, 1995).

Based on the research objectives to be achieved, the type of research is explanatory descriptive research is the type of research that is intended to describe, examine relationships, and test the hypothesized effect among variables and has been formulated previously. Variables that have been formulated in this study were independent variables, namely: (1) Leadership farmer groups (X_1), (2) the role of agricultural extension (X_2), and the variables are not free (3) preparation of the DNPG - DNPG farmer groups (Y_1), (4) farmer group dynamics (Y_2).

Population

The population in this study was all of farmers in seed farmer groups from Majalengka, Sumedang and Garut District recommended by agriculture-related agencies. Majalengka District has two seed farmer groups with a population of 116 farmers, for Sumedang District has five seed farmer groups with a population of 186 farmers while to Garut has three seed farmer groups with a number of 90 farmers, so that the total population of 392 farmers.

Sampling Method

Respondents were determined using simple randomized sampling technique only on a few selected farmer groups in each district and to facilitate the determination of the respondents, conducted by using Slovin's formula (Sevilla et al., 1993) namely:

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

Based on the Slovin's formula, it was obtained amount of 78 farmer samples. The samples each study site were determined proportionally using the formula Rubbin and Luck (Darmawan, 2005) as following:

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

where n= sample size, N=population, e=percent leeway by 10%.

Based on those formulas, the proportional samples were obtained as presented in Table 1.

Table 1. Total Population and Sample Research

District	Farmer groups	Population	Sampel
Majalengka	2	116	23
Sumedang	5	186	37
Garut	3	90	18
Total	10	392	78

Research Instrument

The research instrument used in this study was a questionnaire that has been in testing the validity done by consulting with several experts and to see the correlation between the grains to the total tested using Pearson Product Moment with reliability values using Cronbach Alpha Leadership farmer groups (X_1) = 0.931 the Role of Agricultural Extension (X_2) = 0.932 Preparation of DPG-DNPG (Y_1) = 0.924 and dynamics of farmer groups (Y_2) = 0.911, so the overall result can be said that the instrument can be used to retrieve the data research.

Data Analysis Techniques

Data analysis techniques used in this research is descriptive statistical analysis techniques and inferential statistics such as path analysis. Diagram research leadership influence farmers' group, the role of agricultural extension in the preparation of the DPG-DNPG andits impact on the dynamics of farmer groups is presented in Figure 2.

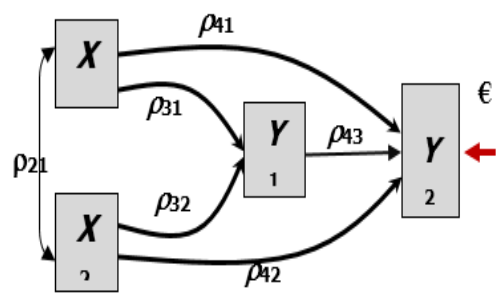

Figure 2. Diagram research leadership influence farmers' group (X1), the role of agricultural extension (X2) in the preparation of the DPG - DNPG (Y1) and its impact on the dynamics of farmer groups (Y2)

Results and Discussion

Respondents Research Overview. In general, the participants are the number of 78 farmers having age distribution ranged at 35-58 years, so it can be classified that survey respondents are in the middle of the adult age group is between 35-50 years (Santrock in Pertiwi and Hadi, 2010). In this age usually someone in a state of relative productive at work and many are looking for opportunities or information that is favorable for farming activities. Results of interviews with some respondents, obtained beberapan study respondents who are very active and zealous in searching for information, especially market ac-

cess. Respondents were active mainly in the age range 35-43 years, the rest are in a condition that is mediocre. The research respondents are the rice farmers managing the arable land with the range area at 600-11.000 m^2. Respondents managing their own land were ranged at 560-5000 m^2. Land lease or land categories instead of arable land cultivated with half the system proceeds to the owner of the land ranges from 700-9338 m^2, while the land lease of 78 survey respondents only two respondents who did that in 2000 and a land area of 3,000 m2. Based on the range of the land there were 35 respondents (44.8%) who undertake farming on his own land, two (2.3%) seek to lease land, 33 respondents (42.5%) cultivate the land not rent or half of the system and the results are eight respondents (10.3%) who undertake farming on their own land and land instead of rent. This shows the welfare of respondents pretty good, because there is a balance between farmers who cultivate arable farming on their own land to farmers who work with part-results system.

Respondents on average have a group with a range of 2-15 years, and most of the members of farmers who often attend meetings of farmer groups and follow the development of farming group. Total caretaker farmer groups as respondents were 15% (14 people). Farmer groups who becomes the object of study as a whole is a group of farmers who have advanced group classes, which rarely change management group corresponding period, and the tendency of farmers group administrators are public figures or people who have a strong influence from the capital (financial), so that the this condition is not good because the most likely of all decisions regarding the development of farmer groups or the other will be only a few people are dominant in decision making, but this should not be a problem if the decision is always concerned with the needs of its members.

Leadership farmer groups and the role of agricultural extension that significantly in the preparation of the DNPG and DNPG farmer groups

A good leader can be seen from the inherent characteristics and reflect the characteristics of a good possibility of good leadership role (Pertiwi and Hadi, 2010). DNPG-DNPG preparation process is a process that has a large enough role in accommodating the aspirations and needs of the farmer group members. Group administrator must be smart to sort out which is the main requirement to the wishes of its members. The role of agricultural extension in the preparation of the DNPG-DNPG no less important, too, trends in the field of agricultural extension into the motor preparation due to limitations of the DNPG-DNPG owned by farmer groups and their members, especially in terms of administration, mastery of computer technology and other woods. To answer the leadership influence farmers' groups and the role of agricultural extension in the preparation of the DNPG-DNPG multiple regression test with degrees of confidence (α) = 5% (0.05).

The analysis showed regression equations to model leadership farmer groups that affect the preparation of the DPG-DNPG farmer groups, namely: $Y_1 = 0.577 + 0.001\ X_{1.1} + 0.076\ X_{1.2} + 0.106\ X_{1.3} + 0.396\ X_{1.4}$ where: Y_1 = Preparation DPG-DNPG, $X_{1.1}$=Individual Characteristics, $X_{1.2}$=Social Characteristics, $X_{1.3}$ = Role as a Leader, and $X_{1.4}$ = Bearer Member aspiration. Significant value to the leadership of farmer groups for the preparation of the DPG-DNPG located on the carrier indicator aspirations of members based on the results of regression test was 0.033. Judging from the leadership of farmer groups, the results showed only one indicator that has an influence in the preparation of the DNPG-DNPG that is the role of farmer groups as a carrier board member aspirations. This means caretaker farmer groups had a role in accommodating all the opinions and concerns of its members, resulting in the preparation of the DPG-farm members DNPG minimum requirements are met, it is in accordance with the previous statement that the board of farmer groups always give an opportunity to the members of the group in group meetings to express their opinions and suggestions as well as writing the minutes or resume the agreement submitted to the local community leaders (such as village chief, water partner organization, etc.) and Implementing Agricultural Extension Center, Fisheries and Forestry (BP3K) through agricultural extension. All three other indicators are variables leadership farmer groups had no significant effect but not necessarily have a role in managing the management of farmer groups, especially in the preparation of the DNPG-DNPG, but needed improvement in the future so that the communication between the board and the group members become better again, especially at the individual characteristics of the indicator a farmer group management, where a farmer group administrator must release his ego for the benefit of the group as well as the experience to lead well in other areas is needed in managing farmer groups to achieve its objectives.

Regression equations to model the role of agricultural extension which affect the preparation of the DPG-DNPG farmer groups, namely: $Y_1 = 0.353 + 0.503\ X_{2.1} + 0.059\ X_{2.2} + 0.129\ X_{2.3} + 0.192\ X_{2.4} + 0.305\ X_{2.5}$ where: Y_1 = Compilation DPG-DNPG, $X_{2.1}$ = Rural Void Fillers, $X_{2.2}$ = Spreader Results Agriculture, $X_{2.3}$ = Coach Decision Makers, and $X_{2.4}$ = Fellow Farmers Giver spirit, and $X_{2.5}$ = Driving Increased Production. Significant value to the leadership of farmer groups for the preparation of the DPG-DNPG located on two indicators: the role of disseminator of agricultural products and driving increased production based on the results of regression test was 0.004. The results showed the role of agricultural extension as a disseminator of agricultural products and driving farmers as partners to continuously improve its production has a real effect for the life of farmers and their families, especially the involvement of agricultural extension in the preparation of the DPG-DNPG.

Spreader agricultural products means agricultural extension bridging the powerlessness of farmers, especially in information technology and agriculture so that agricultural extension has a good role in disseminating the results of the technology, although agricultural extension is considered by farmers is not maximized in this case because the farmer asked not only information but merely to find a market for them. As for the drivers of the increase in production, agricultural extension has copes well, one of them by matching it crosscheck the results of the preparation of the DPG-DNPG actual requirements needed by farmers for the purpose of maintaining production and if it could increase the production of commodities that are managed by farmers.

Leadership influence of farmer's groups and the role of agricultural extension for the preparation of the DPG-DNPG and dynamism of farmer groups.

Leadership influence farmers' groups, the role of agricultural extension and DNPG-DNPG preparation is expected to lead to the dynamic group of farmers, it is analyzed to answer the goal number three. Regression equations to model the effect of leadership and the role of farmer groups for the preparation of agricultural extension and dynamics DNPG-DNPG farmer groups, namely: $Y_2 = 0{,}751 + 0{,}292\ X_1 + 0{,}309\ X_2 + 0{,}249\ X_3$ where: Y_2 = farmer group dynamics, X_1 = leadership farmer groups, X_2 = Role of Agricultural Extension, and X_3 = Preparation DNPG-DNPG. The results showed that all three variables have a significant effect on the dynamics of farmer groups that with each value of 0.05 for the leadership of farmer groups, for the DNPG-DNPG 0.03 and 0.23 for the role of agricultural extension.

This gives the sense that the dynamic of farmer groups can be well established in case of synergy between board members and groups therein involve agricultural extension role in the preparation of the DPG-DNPG that can directly leverage the dynamics of farmer groups. The more dynamic farmer groups, the process of planning, the management and welfare of its members can be increased. Based on the previous explanation, only two indicators of the dynamic group of farmers who are still lacking, namely compactness and pressure groups. This can occur because of one of them land ownership levels vary so that the application of technology adoption is still less compact and pressure groups that are not too berdinamis due to the sense of family that feels so close among the members make the internal conflict that builds low group. But despite it all, the results of this study illustrate the positive impact of seed farmer groups in each district, especially the level of dynamism that is influenced by the board of farmer groups and agricultural extension as the driving motor and this has an influence on the subsequent development of farmer groups.

Leadership model farmer groups and the role of agricultural extension for the Preparation of the DPG-DNPG and dynamism of farmer groups

Based on the analysis performed on the relationship of each variable in this study by using SPSS 21, so that the correlation coefficient as presented in Table 2, which is used to test the following hypotheses: H1: There is a correlation between variables and H0: There is no correlation between variables. Tests were conducted at 5% significance level (α = 0.05), with the testing criteria: H1 is accepted if the value of the sign ≤ α and H1 is rejected if the value of the sign> α.

Tabel 2. Coefficient of Correlation Between Variable Value Research

No	Uraian	r	Significance	α	Dicision
1.	Correlation X_1 with X_3	0.462	0.000	0.05	H_1 Accepted
2.	Correlation X_2 with X_3	0.534	0.040	0.05	H_1 Accepted
3.	Correlation X_1 with X_2	0.539	0.000	0.05	H_1 Accepted
4.	Correlation X_1 with X_4	0.569	0.000	0.05	H_1 Accepted
5.	Correlation X_2 with X_4	0.572	0.000	0.05	H_1 Accepted
6.	Correlation X_3 with X_4	0.577	0.000	0.05	H_1 Accepted

Source: Analysis of data

Statistical test results as shown in Table 2, note that all the variables have a positive correlation, in accordance with previous analyzes that synergy board membuktkan farmer groups and the role of agricultural e*X*tension in the preparation of the DNPG-DNPG will have a positive impact on group dynamics. Getting together the more dynamic farmers' groups. The coefficient of determination (R^2) and the error coefficient path analysis for this study is the error coefficient R^2 0.698 0.716 which means 69.8% of farmer groups affected by the dynamics of these three variables while 30.2% are influenced by other factors that are not conducted research into opportunity Here you are. So that the path coefficient values obtained as follows: X_1 to X_3 for 0.245, X_2 to X_3 for 0.402, 0.292 X_1 to X_4, X_2 to X_4 amounted to 0.309, and 0.249 for X_3 to X_4. Based on the value of the path coefficient (ρ), the correlation coefficient (r), and the coefficient of error (€), the obtained path diagram as shown in Figure 3.

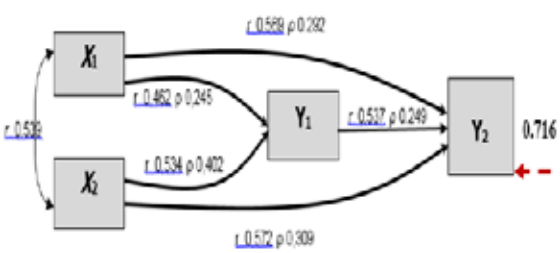

Figure 3. Diagram track statistical analysis results

Based on the results of a partial analysis for each of the variables X_1, X_2 and Y_1 to the dynamics of farmer groups (Y_2) using *t*, showed that the three variables had an immediate effect on the dynamics of farmer groups. This is consistent with previous analyzes, that the three variables does have a direct influence in affecting farmers' group dynamics both in terms of objectives, structure, effectiveness, pressure. compactness, membership and power of farmer groups, which means that the dynamic farmer groups strongly influenced by the dynamics of the group management in developing the group to achieve its intended purpose Sedankan agricultural e*X*tension liven role in the group, especially in terms of bridging the farmers with access to information, technology dissemination and things Other support groups and balanced development of the dynamics of farmer groups. So also with the DNPG-DNPG as a form of business planning group the ne*X*t year a direct impact ie if both the farm planning level group dynamics would be good because the atmosphere is conducive group, compact and achievement of the farmer groups.

But it is different with partial analytical results for each of the variables X_1 and X_2 for the preparation of the DPG-DNPG (Y_1) showed that the leadership variable farmer groups (X_1) does not have a direct influence in the preparation of the DPG-DNPG. This is because the farmer group members' knowledge of factors that remain low due DNPG-DNPG be the main cause of farmer group members are reluctant to be fully involved in planning and preparing the needs of the group. In addition, the group management factors also determine the farmer group members can engage in full or accept the draft proposals that have been made by the board of farmer groups as is the case in this study. By contrast, the role of agricultural e*X*tension variables (X_2), the result of a partial analysis showed that the role of agricultural e*X*tension in the preparation of the DNPG-DNPG have a direct influence on the success of the preparation of the DNPG-DNPG. It must be recognized today agricultural e*X*tension vital role in the drafting of the DNPG-DNPG Combined farmer groups or farmer groups (union), this is due to the same problem as above, namely lack of knowledge and understanding of the board members of farmer groups and farmer groups in formulating and pour in form documents.

Plus the limited information received by the farmer group members and the group management on the DNPG-DNPG format, therefore it needs to be done in-house training by the authorities in this case the Ministry of Agriculture through the Agency Counseling and Human Resource Development of Agriculture to farmers who are members of farmer groups understand how to prepare farming needs and poured in groups in the DNPG-DNPG format so that future things like this are not repeated. Based on the description of the obtained path analysis model fit for the leadership role of the farmer groups and agricultural e*X*tension for the preparation of the DNPG-DNPG and dynamism of farmer groups, as presented in Figure 4.

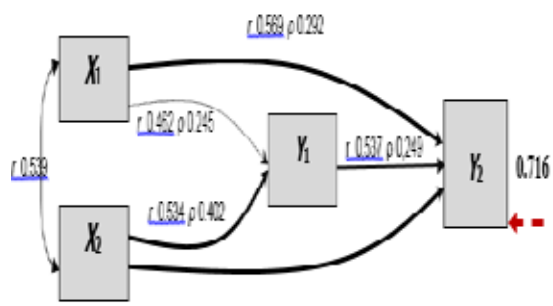

Figure 4. Diagram of path variables impact directly and indirectly

Conclusions

Based on the results of research and discussion, it can be concluded that:

1. The only indicator of the leadership group of farmers who have influence in the preparation of the DNPG-DNPG is aspiration carrier member ($X_{1.4}$) while the influential role of agricultural e*X*tension is the indicator spreader agricultural products ($X_{2.2}$) and driving increased production commodity farmers ($X_{2.5}$)
2. The variable that has a direct influence on the preparation of the DNPG-DNPG is the role of agricultural e*X*tension, while the three variables (leadership farmer groups, the role of agricultural e*X*tension and preparation DNPG-DNPG) have significant influence on the dynamics of farmer groups, getting together these three variables, the farmer groups increasingly dynamic.

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