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

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Effect the Leadership and Role of Agricultural Extension Workers to the Preparation of Definitive 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 definitive plan of group (DPG) and definitive needs plan of group (DNPG) and dynamism of farmer groups. The research was conducted in Magalangka, 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 DNPG. 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 effecting directly 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) significantly 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 Agriculture Development. Both of these programs are basically an attempt to increase food ability, 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 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 into 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 credits / capital farming for farmers group members who need 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 activities is the head / leadership of the farmer groups. The head of farmer group can be considered 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 Yanaati (2005), there are four important indicators of 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 influence to 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 for 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 dynamics of farmers groups?

The Research on DNPG-DNPG aimed to study on:
1. Analyse the influence of farmer groups and the leadership role of agricultural extension in the preparation of the DNPG and DNPG farmer groups.
2. Analyse 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 recirculation 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 definitive 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 (L) and the Role of Agricultural Extension (U) as
exogenous, as well as preparation of the DNPG-DNPG ($Y$) and group dynamics ($Y$) 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 hypotheses. 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, Surendang, 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 Counselling Agency in accordance with Act No. 16 of 2000. The researches were conducted for six months at May until 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 questioner research hypothesis (Singarimoub and Effendi, 1993).

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 hypothesis effect among variables and has been formulated previously. Variables that have been formulated in this study were independent variables, namely: (1) Leadership farmer groups ($X$), (2) the role of agricultural extension ($X$), and the variables are not free (3) preparation of the DNPG-DNPG farmer groups ($Y$), (4) farmers group dynamics ($Y$).

**Population**

The population in this study was all of farmers in seed farmer groups from Majalengka, Surendang and Garut District recommended by agriculture-related agencies. Majalengka District has two seed farmer groups with a population of 116 farmers, for Surendang 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 randomization 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 (Gentila et al., 1993) namely:

$$n = \frac{N \times e^2}{N - 1}$$

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 Rubin and Luck (Dormawon, 2005) as following:

$$n = \frac{N_i}{N} \times n$$

where $n_i$ = sample size, $N_i$ = 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**

<table>
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<th>District</th>
<th>Farmer Groups</th>
<th>Population</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2</td>
<td>116</td>
<td>23</td>
</tr>
<tr>
<td>Surendang</td>
<td>5</td>
<td>186</td>
<td>37</td>
</tr>
<tr>
<td>Garut</td>
<td>3</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>392</td>
<td>78</td>
</tr>
</tbody>
</table>

**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 grants to the total tested using Pearson Product Moment with reliability values using Cronbach Alpha Leadership farmer groups ($X_1$) = 0.921 the role of Agricultural Extension ($X_2$) = 0.932 Preparation of DNPG-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 and its impact on the dynamics of farmer groups is presented in Figure 2.

**Figure 2. Diagram research leadership influence farmers’ group ($X_1$), the role of agricultural extension ($X_2$) in the preparation of the DPG-DNPG ($Y_1$) and its impact on the dynamics of farmer groups ($Y_2$)**

**Results and Discussion**

Respondents Research Overview. In general, the participants are the number of 28 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 35-56 years (Cantrock in Perdwi 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-
cass. 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 m². Respondents managing their own land were ranged at 560-5000 m². 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 m², while the land basis 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 (42.5%) who tend to lease land, 33 respondents (40.2%) 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 attend the meetings of farmer groups, namely 95 respondents (70.3%) who tend to farming on their own land, and 63 respondents (45.2%) who tend to 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.

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 (Sawal and Hadi, 2012). DNPG farmers' decision process is a process that has a large enough role in accommodating the aspirations and needs of the farmer group members. The group administrator must be smart and be an example of a 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 tools. To achieve the leadership influence farmer 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 DNPG-DNPG farmer groups, namely: $Y = 0.577 + 0.000X_1 + 0.027X_2 + 0.106X_3 + 0.396X_4$, where: $Y =$ Preparation DNPG-DNPG, $X_1 =$ Individuval Characteristics, $X_2 =$ Social Characteristics, $X_3 =$ Role as a Leader, and $X_4 =$ Braher Member aspirations. Significant value to the leadership of farmer groups for the preparation of the DNPG-DNPG located on the carrier indicator aspirations of members based on the results of regression test was 0.033. Joining 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 the farmer groups had a role in accommodating all the opinions and concerns of its members, resulting in the preparation of the DNPG-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 Centers, Fisheries and Forestry (BP3H) through agricultural extension.
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 H2: 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 is α and H2 is rejected if the value of the sign > α.

<table>
<thead>
<tr>
<th>No</th>
<th>Urun</th>
<th>r</th>
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| 1. | Correlation X with X | 0.462 | 0.000 | 0.05 | H1 Accept-
| 2. | Correlation X with X | 0.534 | 0.040 | 0.05 | H1 Accept-
| 3. | Correlation X with X | 0.509 | 0.000 | 0.05 | H1 Accept-
| 4. | Correlation X with X | 0.569 | 0.000 | 0.05 | H1 Accept-
| 5. | Correlation X with X | 0.572 | 0.000 | 0.05 | H1 Accept-
| 6. | Correlation X with X | 0.577 | 0.000 | 0.05 | H1 Accept-

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 membukitan farmer groups and the role of agricultural extension in the preparation of the DNP-DNPG will have a positive impact on group dynamics. Getting together the more dynamic farmers’ groups. The coefficient of determination (R²) and the error coefficient path analysis for this study is the error coefficient R² = 0.686 0.716 which means 69.6% 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: X₁ to X₂ for 0.245, X₂ to X₃ for 0.402, 0.292 X to X₄, X₃ to X₄ amounted to 0.309, and 0.249 for X₁ to X₄. Based on the value of the path coefficient (p), the correlation coefficient (r), and the coefficient of error (ε), 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 X₁, X₂, and X₃ to the dynamics of farmer groups (Y₁) using t, showed that the three variables had an immediate effect on the dynamics of farmer groups. This is consistent with previous analyses, that is, the three variables do have a direct influence on 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 Sedanikan agricultural extension given 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 farm-
er groups. So also with the DNPG-DNPG as a form of business planning group the next year a direct impact if it both the farm planning and 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 X₁ and X₂ for the preparation of the DNP-DNPG (Y₁) showed that the leadership variable farmer groups (X₁) does not have a direct influence in the preparation of the DNP-DNPG. This is because the farmer group members’ knowledge of factors that remain low due to 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 extension variables (X₂), the result of a partial analysis showed that the role of agricultural extension 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 extension 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 X₂ 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 Counselling 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 extension 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 (X₁) while the influential role of agricultural extension is the indicator spreader agricultural products (X₃) and driving increased production commodi- ty farmers (X₄).
2. The variable that has a direct influence on the preparation of the DNPG-DNPG is the role of agricultural extension, while the three variables (leadership farmer groups, the role of agricultural extension and preparation DNPG-DNPG) have significant influence on the dynamics of farmer groups, getting together these three variables, the farmer groups increasingly dynamic.
References


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