

# The Leadership Role of Leader in Improving The Effectiveness of Farmer Group

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**Abstract** - The study aims to analyze the relationship between internal and external factors of members with the leadership role of the agricultural leader of the farmer group, the relationship between the leadership role of the farmer group leader and the group effectiveness, and the relationship between internal and external factors of the group. The study was conducted in Wanajaya Wanaraja, Garut Regency, West Java in July to October 2017. The study population was farmers who were members of farmer groups. A sample of 80 people selected using the proportional random sampling technique. The research instrument has passed the validity and reliability test. The variables of this study were the internal factors of group members, external factors of group members, leadership of the farmer group leader, and group effectiveness. Data analysis was done descriptively and using Rank Spearmans correlation test. The results of the study indicated that there was a negative relationship between internal factors of members with the leadership role of the farmer group leader. The external factors of members had a positive relationship with the leadership role of the farmer group leader. The leadership role of the farmer group leader had a positive relationship with group effectiveness. Internal factors of members of farmer groups had a positive relationship with group effectiveness. External factors of group members had a positive relationship with group effectiveness.

**Keyword:** Leadership, Relationship, Farmer Group.

## I. INTRODUCTION

The government tries to accelerate the process of developing the agricultural sector by carrying out various policies. This policy can be seen from the growth and the development programs of farmer groups in the countryside. The growth and development of farmer groups potentially has a strategic meaning in effort to improve the quality of human resources. This is expected to improve the welfare of farmers and their families. Through the growth and development of farmer groups, the process of absorbing information about technological innovations is more easily socialized and accepted by farmers. Likewise, the function of farmer groups as a learning class, production units and a vehicle for collaboration among members of farmer groups as well as communication media among fellow farmers can be optimized.

Referring to Suyadi (2018), leadership plays a role as a person who can influence, direct, mobilize and manage groups to achieve mutually agreed goals. Group effectiveness is closely related to the leadership role of the farmer group leader in achieving group goals. The leadership role of the farmer group leader is very dependent on the individual abilities of the said leader. The farmer group will be effective if good cooperation is established between members of the farmer group and their leaders in an effort to achieve group goals. The leadership of the farmer group leader is thought to be very instrumental in increasing the effectiveness of the group in supporting the achievement of group goals, namely the income

level of group members, group member morals, and group member satisfaction.

This study aims to analyze the relationship between internal and external factors of farmer group members with the leadership role of the farmer group leader, analyze the relationship between the leadership role of the farmer group leader and group effectiveness, and analyze the relationship between internal and external factors of farmer group members with group effectiveness.

## II. RESEARCH METHODS

The research site was located in farmer groups in Wanajaya Village, Wanaraja District, Garut Regency, West Java and belonged to the area of Wanaraja Agricultural Extension Agency (BPP). The research was conducted from July to October 2017. The research approach used quantitative data as a basis for analysis to test the hypothesis. The type of this research was descriptive correlational research means the type of research which is intended to describe and assess the relationships that have been previously formulated.

The population of this study were all members of farmer groups from five farmer groups in Wanajaya Village, Wanaraja Subdistrict, Garut Regency with a total number of 103 farmer group members. Number of samples determination was calculated based on the Slovin formula which obtained 80 people, then been determined proportionally from the five farmer groups based on the number of members using random sampling.

Primary data was obtained by direct interview, or observation with respondents based on a list of questions that have been prepared. The instrument of this research has passed the validity test and instrument reliability test. The variables that had been formulated in this study were group members internal factors (X1), group members external factors (X2), farmer group leadership (Y1), and group effectiveness (Y2). Data analysis was done descriptively and using the Rank Spearmans correlation test.

The hypotheses in this study were as follows:

1. There is a significant relationship between internal and external factors of group members with the leadership role of the farmer group leader.
2. There is a significant relationship between the leadership role of the farmer group leader and group effectiveness.
3. There is a significant relationship between internal and external factors of group members with group effectiveness.

## III. RESULTS AND DISCUSSION

### A. Internal Factors of Group Members

The internal factors of group members in this study which allegedly related to group effectiveness consisted of age,

formal education, land ownership, farming experience, membership period, cosmopolitan, and group motivation. The results showed the distribution of respondents on internal factors as presented in Table 1.

Age is an aspect that is related to one's physical and psychological abilities. Results of research data indicate that the age of group members ranges from 19 years to 85 years. Most group members (62.50%) are of middle age, between 37 years to 57 years. When viewed from productive age, the majority of group members still have relatively good physical abilities to support their farming activities. However, if

observed, the age of farmers is more likely to be older and there are very few young farmers. These results are in accordance with Anwarudin (2017), Anwarudin and Maryani (2017), Maryani et al (2017) and Harniati et al (2018). For this finding, Wardani and Anwarudin (2018) explained that the cause was that the younger generation was less interested in agriculture. Efforts that can be made to increase the interest of the younger generation in agriculture include involving the younger generation in the agricultural community (Harniati and Anwarudin 2018) and providing examples of successful persons in agricultural business (Anwarudin and Haryanto 2018, Anwarudin et al 2018).

Table 1. Research Results of Distribution of Respondents on Internal Factors of Farmer Group Members

No	Research Variable	Category	N	%	Range
1.	Age	Young (< 37)	5	6,25	19 – 85 (years)
		Middle (37 – 57)	50	62,50	
		Old (> 57)	25	31.25	
2.	Education	Low (Elementary School)	25	31,25	Elementary School - College
		Moderate (Junior High School)	16	20.00	
		High (High School - College)	39	48,75	
3.	Land Ownership	Narrow (< 0.30)	32	40,00	0.15 – 1.50 (hectare)
		Medium (0.30 – 0.54)	21	26,25	
		Vast (> 0.54)	27	33,75	
4.	Farming experience	Low (< 10)	7	8,75	5 – 55 (years)
		Moderate (10 – 25)	43	53,75	
		High (>25)	30	37,50	
5.	Membership period	New (< 5)	18	22.50	3 – 20 years
		Moderate (5 – 8)	23	28,75	
		Old (> 8)	39	48,75	
6.	Cosmopolitan	Low (< 1.1)	32	40,00	1.0 – 2.2 (score)
		Moderate (1,1 – 1.2)	38	47,50	
		High (> 1.2)	10	12.50	
7.	Group motivation	Low (< 1.74)	9	11,258	1.0 – 3.0 (score)
		Medium (1.74 – 2.44)	64	0,00	
		High (>2.54)	7	8,75	

Table 1 shows that formal education of group members is mostly (48.75%) in the high category, which is graduated from senior high school/undergraduate level, while those with moderate education are 20% junior high school graduated, and those with low education are 25% elementary school graduated. The description of the education level of this group members shows that most members have literacy skills which means that they can access information from various media. The level of education of farmers as a result of this study is better than the report of Warya and Anwarudin (2018) and Liani et al (2018) that the majority of farmers have elementary school education.

In general, land ownership managed by farmer group members from research data belongs to narrow category of less than 0.30 hectares. While the vast land acquisition above 0.54 hectares is around 33.75%. Members who owned the land between 0.30 to 0.54 hectares were around 26.25%. The land managed by these members consists of paddy fields and lands. The main commodity cultivated by group members is paddy by implementing paddy PTT program. Land areas (fields) managed by group members are planted with crops such as peanuts, corn, sweet potatoes and cassava. While, some member plant fruit crops such as durian and rambutan.

Farming experience based on research data ranges from 5 years to 55 years. The results of the study in Table 1 show that the majority of group members (53.75%) have experience in farming between 10 years to 25 years. Armed with these

farming experiences, thus in carrying out farming activities, it can always compare the experiences and farming technologies that have been carried out so far. Farmers who have relatively much experience in managing farming tend to be critical. According to Dahama and Bhatnagar (1969) in Anwarudin et al (2018) that one's experience will contribute to interest and hope to learn further. In addition to the experience of paddy farming, secondary crops and fish farming as crop rotation or mina padi on each member have interesting and different experiences.

The membership period is the length of being a member of the group. Research data shows that most members of the group (48.75%) having been a member for more than 8 years. This finding is related to the feeling of belonging to the group, thus in building relationships, enthusiasm and group development, initiatives always come from members who have relatively long been members of the group. In maintaining group spirit such as providing production facilities and land processing activities that assist each other show cohesiveness that is maintained and sustained by the group members.

Cosmopolitan is the extent of association and the openness character of farmers who always try to find information in the field of farming they are engaged in. Results of research data in Table 1 show that the majority of members of the group's cosmopolitanism are moderate (80%), while members with high cosmopolitanism are 8.75%. This is consistent with the reality in the field, that most group members are still unaware

of the importance of appropriate farming technology to the commodity being cultivated, hence seeking information in the mass media and contacting the parties concerned has not been seriously conducted by group members. Members who belong to the high cosmopolitan level often relate to outside parties in seeking information about farming technology that suits their needs.

Group motivation is an encouragement from within group members as well as from outside to generate motives in order to carry out an action in achieving goals. Research data shows that group motivation is in the medium category (80%), this indicates that most members become group members based on their own desires and the necessity that comes from outside

parties. A small number of group members have low motivation (11.25%) and this member enters because of necessity and influence from outside parties, thus in group activities they are inclined to less participate in activities carried out by the group, some less active members.

### B. External Factors of Group Members

The external factors of group members related to the effectiveness of farmer groups are the availability of information, the extension intensity, access to innovation, the legitimacy of community, and the communication tools. Research data shows the distribution of respondents on external factors as shown in Table 2.

Table 2. Research Results of Distribution of Respondents on External Factors of Farmer Group

No	Research Variable	Category	N	%	Score Range
1	Information Availability	Low (< 1.06)	31	38.75	1.0 – 2.5
		Moderate (1.06 – 1.52)	42	52.50	
		High (> 1.52)	7	8.75	
2	Extension Intensity	Low (< 1.63)	11	13.75	1.0 – 2.5
		Moderate (1.63 – 2.37)	57	71.25	
		High (> 2.37)	12	15	
3	Access to Innovation	Low (< 1.41)	7	8.75	1.0 – 3.0
		Moderate (1.41 – 2.37)	71	88.75	
		Good (> 2.37)	2	2.50	
4	Community Legitimacy	Low (< 1.7)	11	13.75	1.0 – 3.0
		Medium (1.7 – 2.44)	63	78.75	
		Good (> 2.44)	6	7.50	
5	Communication Tools	Low (< 0.87)	50	62.5	1.0 – 2.6
		Adequate (0.87 – 1.79)	18	22.5	
		High (> 1.79)	12	15	

Availability of information regarding the material needed by group members in carrying out their farming is generally relatively moderate. Regional Technical Implementation Units (UPTD)/BPP as extension agencies in the sub-district level in its duty to provide information needed by group members is still inadequate. Information about technology from electronic media in the form of radio broadcasts still rarely broadcasts matters related to information in agriculture, except RRI which broadcasts rural broadcasts with its village to village programs. While national/private television media are still limited in broadcasting information about sufficient and adequate farming technology which needed by farmers.

Results of research data in Table 2 show that the availability of information is in the moderate category with 42 people (52.50%). Based on field field observations, brochures/posters about the material needed by members of farmer groups are still relatively less available at the UPTD/BPP, while print media in the form of newspapers/magazines do not provide information about technology and are rarely found in research locations. Sinar Tani and Trubus print media are only available for a small group of members who were accidentally obtained these from outside the Wanajaya village area.

In general, information about material related to farming managed by group members was obtained from the farmer group leader and Field Agricultural Extension Agents (PPL). Extension intensity is the frequency of attendance of group members in participating in extension activities carried out by UPTD/PPL in agreed periodic meetings. Research data shows that the extension intensity followed by group members

generally belongs to the low (13.75%), moderate (71.25%), and high (15%) categories.

Group members who belong to low category of attending extension activities are members who are noted to be less active. While most members attended the meeting, especially if the extension method presented was interesting and easy to understand. The results of field observations on the extension of rat pest control activities, the demonstration of fumigator system utilization that were demonstrated by extension agents (PPL) was very interesting and most group members were present. Access to innovation is an attempt by members to obtain new farming technology, both from direct sources (research institutions), extension agencies, experts, and from group leaders as the head of the group.

Data from the research shows that access to innovation belong to medium category with 71 respondents said that getting innovation about the farming technology needed can be accessed through social media. According to field observations and the results of in-depth interviews with group members, to access technological innovations through print media is still relatively difficult to do because of the limited information bulletin about the research results, especially about new innovations that fit the needs of group members issued by the Research Institute.

Sources of information about the technology needed that can be accessed by group members are mostly obtained from extension agents and farmer group leaders when group meetings are held. Print media in the form of brochures/posters provided by UPTD/BPP is very limited and inadequate.

Community legitimacy is the acceptance of the environment of the community/figure/local government apparatus against the existence of farmer groups in conducting their activities. Research data shows that the legitimacy of the community towards the existence of farmer groups in their environment is quite recognized with around 63 respondents (78.75%) said that the existence of groups could be used as an example in carrying out community social activities and in improving the economic welfare of the local community.

Community social activities include rehabilitation of houses of worship, village road repairs and environmental management as a manifestation of participation by farmer groups aside of running their farming activities. In addition to the above activities, the manifestation of the participation of other farmer groups is to help socialize the village activities program, one of which is to maintain and protect irrigation channels and environmental hygiene.

Communication tools are communication devices/media used by group members to interact with fellow members, group leaders, and with other groups. Research data shows that

the use of telephone/cellphone communication equipment is in the low category, namely 50 respondents (62.50%) have not used communication devices, both mobile phones and public telephones that can be utilized by members. While 18 respondents (22.50%), said that they were living around the highway and there were public telephones and on average had mobile phones that could be used for communication with other group members and extension agents (PPL). In interacting with fellow group members and with group leaders, communication is often done verbally. Whereas by mail, usually if there is an official meeting with the BPP or the related agency that will make a visit.

### C. Leadership of the Farmer Group Leader

Distribution of respondents based on the opinion on the leadership role of the farmer group leader in increasing group effectiveness is facilitating group members in achieving goals, aiding members to fulfill their needs, achieving group values, and representing members' opinions in interacting with other group leaders, presented in Table 3.

Table 3. Research Results of Distribution of Respondents on Leadership Role of Farmers Group Leader

No	Research Variable	Category	n	%	Score Range
1	Facilitating group members in achieving goals.	Insufficient < 1.55	18	22.50	1.0 – 3.0
		Moderate 1.55 – 2.51	54	67.50	
		Good > 2.51	8	10	
2	Aiding members fulfill their needs	Insufficient < 1.56	6	7.50	1.0 – 2.3
		Moderate 1.56 – 2.16	69	86.25	
		Good > 2.16	5	6.25	
3	Achieving group value	Insufficient < 1.52	13	16.25	1.0 – 2.3
		Moderate 1.52 – 2.26	43	53.75	
		Good > 2.26	24	30.00	
4	Representing the opinions of group members in interacting with other group leaders	Insufficient < 1.39	14	17.50	1.0 – 2.7
		Moderate 1.39 – 2.27	49	61.25	
		Good > 2.27	17	21.25	

The results showed that 80 respondents said that the actions of the farmer group leader in facilitating members to achieve goals consisted of poor category with 18 people (22.50%), moderate with 54 people (67.50%), and good category with 8 people (10%). Efforts made by farmer group leaders in achieving group goals include providing guidance on farming activities, particularly PTT of paddy, explanation of objectives to be achieved by the group, and as farmer group leader always pioneering the implementation of activities in conducting farming business.

Table 3 shows that the actions of the farmer group leader in facilitating group members to achieve goals belongs to moderate category. This is in accordance with observations in the field and in-depth interviews with group members which indicates that only part of the group's goals have been achieved. The implementation of PTT of paddy that has not been achieved can be seen from the field fact that some members of the group who plant the paddy in different time due to the delay in processing the land which results in the water regulation system being disrupted. The difference of planting time is caused when during a group meeting about the explanation of planting time, there are some members who are not present so they do not get the information.

The farmer group leader who assists members to fulfill their needs is an action involving all the knowledge and experience they have to assist members obtain their farming needs, explains the relationship between the needs of group members and group goals, and acts fair to group members. The

research data shows that the actions of the farmer group leader to fulfill the needs of members with total of 80 respondents indicates that 69 people (86.25%) said sufficient. The results of observations in the field indicate the limitations of the farmer group leader in inventorying the needs of members, particularly the need for varied production facilities (fertilizer and seeds), thus it is considered to be unfair. From field finding it can be seen that most members in their effort to provide farming production facilities are well coordinated, while some members provide their needs themselves so that the implementation of fertilization activities is not done together.

Achieving group value is the action of the farmer group leader in their closeness to the members, expressing the aspirations of the members and the members understanding about the values in the group. Data from research results show that in achieving group value from the opinions of 80 respondents, there was 43 people (53.75%) stated it was sufficient. This means that most group values can be manifested by the actions of the farmer group leader. The relationship between the farmer group leader and group members is quite close because of regular meetings twice a month. In safeguarding group values, members always protect the group's good reputation and try to develop the group by obeying the rules that have been created together.

The farmer group leader as the head of the group, still does not fully accommodate the aspirations of group members, especially in terms of marketing rice products, most of which

still conduct individual marketing. The leader represents the opinions of group members in interacting with other leaders. Research data shows that the opinions of respondents about the actions of the farmer group leader in interacting with other group leaders with 49 people from 80 respondents stated that they were quite representative (62.25%). The effort of the farmer group leader in representing his group members to interact with other group leaders is to control plant pests, especially rats and rice planting system simultaneously. Rat pest control is coordinated in an integrated manner by the UPTD/extension agents by involving all members of the group in the Wanajaya village in the fields which are distributed by the farmer group leader. The meeting between five farmer group leaders and group administrators resulted in an integrated schedule to carry out rat pest control which is conducted together by all members of the group who owned the land.

#### D. Group Effectiveness

Group effectiveness is the level or degree of achievement of the objectives of the farmer group which consists of: increase in group member income, moral of group member,

and member satisfaction. Opinions of 80 respondents to the group effectiveness which are group goals in general state that they are quite effective, this can be seen in Table 4 about the distribution of respondents from the research results.

The increase in income of group members was emphasized on the results of the average production of paddy during one rice planting season, hence profits were obtained after deducting the capital cost, compared to the yield of rice in the previous planting season. The average increase in farming production by applying PTT of paddy ranges from one to one half ton per hectare or from five tons to six and a half tons per hectare (ha).

The results of interviews with the farmer group leader from an area of 300 *tumbak* or about 0.5 ha were obtained after deducting capital cost of around 9 million rupiah per planting season but not calculated the labor costs of the farmer and his family. The moral of group members is the attitude of the members towards the group seen from their participation in planning, implementing and evaluating the results of the activities. Group member satisfaction is the success of achieving personal goals outside the group's goals.

Table 4. Research Results of Distribution of Respondents on Group Effectiveness

No	Research Variable	Category	n	%	Score Range
1	Increased member income	Insufficiently increased	4	5	8 – 10 million per Ha per planting season
		Moderately increased	66	82.50	
		Sufficiently increased	10	12.50	
2	The moral of group members	Poor (< 1.24)	7	8.75	1.0 – 2.3
		Sufficient (1.24 – 1.9)	54	67.50	
		Good (> 1.9)	19	23.75	
3	Member satisfaction	Insufficient (< 1.46)	8	10	1.0 – 2.6
		Sufficient (1.46 – 2.08)	63	78.75	
		Good (> 2.08)	9	11.25	

Table 4 shows the results of research data on respondents' opinions on each group effectiveness indicator regarding the leadership role of the farmer group leader. Most members of the farmer group, namely 66 respondents from 80 people stated that the increase in income belong to the category of moderately increased (82.50%). The increase in member income can be described as income from rice farming managed by members which is calculated in one planting season.

Moral of member towards the group, can be seen from the member participation in planning, implementing and evaluating activities. Measurements are based on the frequency of members attendance at each meeting and activities carried out by farmer groups. The data from the study showed 54 respondents from 80 people stated that the frequency of members attendance at each meeting held by the group belongs to sufficient categories (67.50%). Members who are in the poor category are as many as seven people (8.75%) who are less active members to attend the meetings held by the group.

Member satisfaction is the success of achieving personal goals beyond group goals. Research data shows that as many as 63 people (78.75%) from 80 respondents said they were quite satisfied. From the results of interviews with several group members stating that after becoming a member of the group, they can take part in most activities which are group work programs so that they can add insight.

The participation of group members in implementing group work programs can increase knowledge and skills in the field

of planning, implementation of farming business activities, as well as knowledge about agriculture in general, namely in the fields of husbandry and fisheries. In addition to broadening the field of farming business, after farmers become members of the group can feel the kinship between members and as a vehicle for learning to communicate with fellow group members as well as outside parties of group members.

#### E. Relationship between Internal Factors of Group Members and Leadership of Farmers Group Leader

The internal factors of group members assumed to be related to the leadership of farmer group leader are: age, formal education, land ownership, farming experience, membership period, cosmopolitan and group motivation. The results of the analysis between the internal factors of group members and the leadership of the farmer group leader are presented in Table 5. All standard paper components have been specified for three reasons: (1) ease of use when formatting individual papers, (2) automatic compliance to electronic requirements that facilitate the concurrent or later production of electronic products, and (3) conformity of style throughout a conference proceedings. Margins, column widths, line spacing, and type styles are built-in; examples of the type styles are provided throughout this document and are identified in italic type, within parentheses, following the example. Some components, such as multi-leveled equations, graphics, and tables are not prescribed, although the various table text styles are provided. The formatter will need to create these components, incorporating the applicable criteria that follow.

Table 5. Correlation Value between Internal Factors of Farmer Group Members and Leadership Role of Farmer Group Leaders

Internal Factor	Leadership of Farmer Group Leader			
	Facilitating group members	Assisting to fulfill needs	Achieving group value	Representing member opinions
Age	0.091	0.086	- 0.051	- 0.143
Education	- 0.219	0.053	- 0.093	- 0.096
Land Ownership	- 0.009	- 0.026	- 0.013	0.000
Agricultural business experience	0.133	0.048	- 0.143	- 0.036
Membership period	0.088	- 0.036	0.070	- 0.137
Cosmopolitan	0.118	0.151	- 0.022	0.089
Group motivation	- 0.062	0.094	- 0.040	0.067

Table 5 shows that the internal factors of group members, namely the age of members are negatively related to the manifestation of group values. This means that the younger the age of group members, the greater the leadership role of the group leader in achieving group value. Field observations show that young group members are around 16.25% and they still do not understand the values that exist in the group.

The internal factors of group members namely land ownership have a negative relationship in the manifestation of group value. The wider the land managed by members, the role of the farmer group leader as a group leader is declining in assisting to achieve personal and group goals. The farming experience has a negative relationship with the two indicators of leadership of the farmer group leader, namely achieving group values and representing the opinions of members. The longer the experience of group members in farming, the leadership role of the farmer group leader in achieving group value decreases. The longer the experience of a member in farming, the less the role of the farmer group leader in representing the opinions of members.

The membership period has a negative relationship with the leadership role of the farmer group leader in assisting to fulfill needs and representing the opinions of members to interact with other group leaders. Field observations show that the longer farmers been members of the group the lesser the leadership role of farmer group leader in achieving group goals. While the leadership role of the farmer group leader in assisting to fulfill needs does not need to be considered, while in representing group members to interact with other group leaders become lesser because based on the experience of members who have long been members, they already have

more collaboration with other groups in carrying out farming activities.

Cosmopolitan is negatively related to achieving group value. Group members who are cosmopolitan have relatively wide connection, good at seeking information both about technology and the group development with high intensity, making the leadership role of the farmer group leader in manifesting group value is lesser.

The internal factors of group members, namely group motivation, have a negative relationship with the leadership role of the group leader, namely in facilitating the achievement of group goals and manifesting group values. Field observation shows that members who have high motivation for groups led to the decline of leadership role of the farmer group leader, particularly in facilitating the manifestation of group goals and achieving group value. In general, the internal factors of farmer group members have significant relationship with the leadership role of the farmer group leader, meaning that the greater the indicator component found in the internal factors of group members, the higher the leadership role of the farmer group leader.

#### *F. Relationship between External Factors of Group Members and Leadership Role of Farmer Group Leader*

The external factors of group members assumed of being associated with the leadership of the farmer group leader are the availability of information, the intensity of extension, access to innovation, the legitimacy of the community, and the communication tools. The analysis result of the relationship between external factors of group members and the leadership of the farmer group leader are presented in Table 6.

Table 6. Correlation Value between External Factors of Farmer Group Members and Leadership Role of Farmer Group Leader

External Factor	Leadership of Farmer Group Leader			
	Facilitating group members	Assisting to fulfill needs	Achieving group value	Representing member opinions
Information Availability	- 0.528 **	0.136	0.154	0.054
Extension Intensity	0.346 **	- 0.333**	- 0.105	0.156
Access to Innovation	- 0.258 **	0.109	- 0.088	- 0.222*
Community Legitimacy	0.270 *	0.228 *	0.154	0.255 *
Communication Tools	0.078	0.216	0.095	0.102

Description : \* shows a confidence level of 0.05

\*\* shows a confidence level of 0.01

Table 6 shows that the four indicators of the five external indicators of group members have a strong relationship with the leadership role of the farmer group leader, which facilitates the achievement of group goals, helps meet the needs of members, and represents the opinions of members in interacting with other group leaders. The availability of

information has a very significant negative relationship with the leadership role of the farmer group leader in facilitating the achievement of goals. The less technological information about farming needed by members, the greater the leadership role of farmer group leaders as leaders to facilitate the achievement of group goals.

The intensity of extension has a very significant relationship with the leadership role of the farmer group leader in facilitating group goals. This means that the higher the intensity of extension followed by members, the greater the role of the farmer group leader in facilitating the achievement of goals. Extension activities aim to change the behavior of the target in knowledge, attitude and skills. The role of the farmer group leader as a group leader must be able to facilitate what members got when participating in extension activities, particularly those concerning farming technology that are suitable to the needs of members by means of the farmer group leader pioneering these activities.

The intensity of extension has a very significant and negative relationship with the leadership role of the farmer group leader in assisting members meet their needs. Group members who participated in high intensity extension activities, the role of the farmer group leader as group leader was relatively lacking. Data in the field shows that the role of the farmer group leader in assisting to fulfill needs, especially in terms of knowledge of rice farming by applying the PTT program, has been obtained by many members of the extension agents (PPL) during the extension activities.

Access to innovation has a very significant and negative relationship with the leadership role of the farmer group leader in facilitating group goals which means that members who access innovation are lacking, it requires the great leadership role of farmer group leaders hence group goals can be achieved. Information about technology is expected from the farmer group leader as the group leader or from another party. Access to innovation has significant relationship with the leadership role of the farmer group leader in representing members' opinions to interact with other groups, meaning that members who lack access to farming technology innovation, the farmer group leader must play a role in accessing farming

technology according to the needs of members and the results delivered to group member.

The external factors of group members, namely the legitimacy of the community are significantly related to the three indicators of leadership of the farmer group, which facilitate members in achieving goals, assist to fulfill needs, and represent the opinions of members in interacting with other group leaders. The acceptance of the community and community leaders/local government towards the existence of farmer groups as a group of farmers in carrying out their farming activities requires the leadership role of the farmer group leader to be more active in achieving group goals, namely to make the farmer group he leads more effective. The existence of a very significant relationship between the external factors of the farmer group members and the leadership role of the farmer group leader, which means that the higher the indicators found in the external factor variables of the farmer group members, the greater the leadership role of the farmer group leader.

#### **G. Relationship between the Leadership Role of Farmer Group Leader and Group Effectiveness**

The leadership of farmer group leaders assumed to be related to the effectiveness of groups in Wanajaya village in carrying out their role as farmer group leader, namely facilitating group members in achieving goals, helping group members meet needs, manifesting group values and representing group members' opinions in interacting with other group leaders. The four roles of the farmer group leader in the leadership process, have a significant relationship with the two variables of farmer group effectiveness, namely group member moral and group member satisfaction. For more details, the results of the analysis of the two variables are presented in Table 7.

Table 7. Correlation Value between the Leadership Role of Farmer Group Leader and Group Effectiveness.

Leadership Role of Farmer Group Leader	Group Effectiveness		
	Increased Member Income	Moral of Members	Member Satisfaction
Increased member income	0.680**	0.406**	0.225*
The moral of group members	0.327**	0.812**	0.098
Manifesting group value Representing the opinions of group members in interacting with other group leaders	- 0.087	0.348**	0.430**

Description : \* shows a confidence level of 0.05

\*\* shows a confidence level of 0.01

Table 7 shows that the role of farmer group leaders in facilitating group members to achieve goals has a very significant relationship with member satisfaction. The results of field observation indicated that in achieving group goals, the farmer group leader gave a briefing on rice farming activities in the hope that all members plant simultaneously by applying innovations in PTT of paddy.

As a leader, the farmer group leader became the pioneer in the implementation of the activity, especially giving examples of implementing the paddy PTT program as recommended. In addition, the farmer group leader in each meeting held once every two weeks is always on time and presents important information about farming. Every information related to farming activities and farmer group development is always conveyed during meetings with members of farmer groups.

Assisting members in meeting the needs is very significantly related to one of the indicators of group effectiveness, namely member satisfaction. In carrying out its role, the farmer group leader seeks to help its members, especially the needs of production facilities by providing fertilizer and seeds, thus in carrying out farming activities, it will be easier. Manifesting group value is an understanding between farmer group leaders and members about group values and trying to accommodate the aspirations of its members.

Table 7 shows that the leadership role of the farmer group leader in manifesting group value is very significantly related to member moral and member satisfaction. The results of field observation showed that the actions of the farmer group leader as a leader gave enthusiasm and motivation to the members in increasing farming production by approaching both individually on the land and during group meeting activities.

The actions of the farmer group leader as a leader in representing the opinions of group members in interacting with other group leaders show a very significant relationship with member satisfaction. The results of field observations show that the head of the farmer group in his role has carried out simultaneous planting in one stretch with other group members on the initiative of the farmer group leader. At the time of the study, rat pests attacked paddy plants in one land stretch. For mass prevention, the farmer group leader coordinates with other groups that have land in same stretch to work together in carry out trapping and eradicating the rat pests. There is a very significant relationship between the leadership role of the

farmer group leader and group effectiveness, which means that the greater the leadership role of the farmer group leader, the higher the effectiveness of the group.

#### H. Relationship between Internal Factors of Group Members and Group Effectiveness

The internal factors of group members assumed to be related to the effectiveness of farmer groups are: age, formal education, land ownership, farming experience, membership period, cosmopolitan, and group motivation. The correlation value between internal factors of group members and group effectiveness is presented in Table 8.

Table 8. Correlation Value between Internal Factors of Farmer Group Members and Group Effectiveness

Internal Factor	Effectiveness		
	Increased Income	Moral of Members	Member Satisfaction
Age	0.088	-0.008	-0.115
Education	- 0.120	0.034	0.022
Land Ownership	0.055	-0.188	0.084
Agricultural business experience	0.155	-0.014	0.071
Membership period	- 0.084	- 0.100	-0.082
Cosmopolitan	0.165	0.143	0.146
Group motivation	0.092	0.054	0.204

From the analysis results of Table 8, it can be seen that almost all indicators of internal group members have a relationship with group effectiveness. The wider land ownership by group members can increase members' income, this is related to the commodities planted are more diverse, thus the source of income obtained by members is wider. The main commodity cultivated by members is paddy plants, while land is planted with crops and fruits.

The period of one's membership has a negative relationship with increasing income, moral of members and member satisfaction. Field observation shows that most members have been part of farmer group for a long time, it is possible that long time members always follow technological developments in the field of farming they manage.

The internal factors of group members namely group motivation have a relationship with the three indicators of group effectiveness, namely increasing income, moral of

members and member satisfaction. This is in accordance with what was stated by Handoko (1995), that someone will act and take an action to achieve something desired. There is a very significant relationship between internal factors of farmer group members with group effectiveness, which means that the higher the indicators found in the internal factor variables of the farmer group members, the higher the group effectiveness.

#### I. Relationship between External Factors of Group Members and Group Effectiveness

The external factors of group members that are assumed to be related to group effectiveness are: information availability, extension intensity, access to innovation, community legitimacy, and communication tools. The results of the analysis show that all external factors of group members have a relationship with group effectiveness. The correlation value between external factors of group members and group effectiveness is presented in Table 9.

Table 9. Correlation Value between External Factors of Farmer Group Members and Group Effectiveness.

External Factor	Effectiveness		
	Increased Income	Moral of Members	Member Satisfaction
Information Availability	0.553**	0.533**	0.012
Extension Intensity	0.329**	0.683**	0.056
Access to Innovation	0.241**	0.398**	0.325**
Community Legitimacy	-0.241*	0.326**	0.124
Communication Tools	0.333**	0.358**	0.0190

Description : \* shows a confidence level of 0.05

\*\* shows a confidence level of 0.01

Table 9 shows that the availability of information is very significantly related to the increasing members' income and moral of members with the availability of complete information about farming technology needed by members, so that it can increase income in every planting season of paddy from 6 tons to 8 tons per ha, with grain prices of IDR 4.000 per Kg, then the increase in income is around 8 million.

The intensity of extension conducted by Field Agricultural Extension Agents (PPL) is very closely related to the increase in member income and member moral. By using various

extension methods in delivering extension material, group members gain knowledge and skills about growing farming technology that is suitable for the needs of members in supporting their farming activities. Field observations and interviews with the farmer group leader found that the frequency of extension activities carried out by Field Agricultural Extension Agents (PPL) was 1 time a month, this gives members satisfaction feeling personally, especially with the material needed by the members.



Access to innovation relates very significantly to the three indicators of group effectiveness, meaning that the higher the members access technological innovation, the higher income of the members, moral of members and member satisfaction. Community legitimacy is the level of public acceptance of the existence of groups. Table 9 shows that the external factors of group members namely the legitimacy of the community have a very significant relationship with the moral of members. The moral of group members is the spirit of members in improving and developing groups with support from the community and leaders in their society.

Communication tools have a very significant relationship with indicators of increasing member income and moral of member members. The more communication facilities available, the easier it is for members to interact with other members and sources of information, so as to increase the income and moral of group members. There is a very significant relationship between external factors of farmer group members with group effectiveness, which means that the higher the indicators found in the external factors of farmer group members, the higher the group effectiveness.

### CONCLUSION

The results of the research on the leadership role of leader in increasing the effectiveness of farmer groups can be summarized as follows:

1. There is a negative relationship between internal factors of farmer group members and the leadership role of the farmer group leader, the younger the members, the greater the leadership role of the farmer group leader. External factors of farmer group members have a positive relationship with the leadership role of farmer group leader
2. The leadership role of farmer group leader has a relationship with group effectiveness, the greater the role of the farmer group leader, the more effective the farmer group will be.

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