Factors affecting the effectiveness of farmers’ group in Rembang Regency

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Abstract. This study aimed to analyze the influence of social factors, such as: social capital, leadership style, the role of extension agents and group cohesiveness toward the effectiveness of farmers’ group functions in Rembang Regency. The research location was determined by purposively. Respondents were selected by three cluster stages. There were 155 respondents. The regression analysis shows that social capital, leadership style, group cohesiveness, and the role of extension agents simultaneously and partially had significant influence toward the effectiveness of farmers’ group functions. Farmers' group functions include: enhancing learning process, facilitating cooperative action and networking, and delivering assistance for production unit. It recommends to find activities to motivate farmers to joining farmers’ group. Moreover, it is also important to maximize the role of agricultural extension agents by providing training skill.

1. Introduction
Agricultural development requires strong farmer institutions hence farmers as the main actors can take advantage of existing development programs in a sustainable manner. Farmers’ group are formed because of relation based on sharing common aim on how to managing their farms on the basis of togetherness in community. The farmers group is expected to encourage the sense of creativity, innovation, motivation, solidarity and responsibility as well participation among its members. Many factors influences farmers’ groups to reach the goals in order to enhance learning process, facilitate cooperative action and networking, as well as delivering assistance for production unit. These factor include the group dynamics, group norms, group cohesion, leadership style, internal factors (such as: farmer’ motivation and knowledge), and external factors (such as: role of agricultural extension agents) [1].

In addition, farmers’ group have role, such as: driving togetherness, sharing idea or knowledge, enhancing trust among farmers and mutual benefit to achieve better income for farmers and their family. These roles so called social capital among farmer community, where norms (or reciprocity) and networks can drive the efficiency of society by facilitating coordination and cooperation for mutual benefits [2].

Farmers’ group approach has been used to engage farmer by organizing collective action in order to improve their bargaining power. Farmer have opportunity for learning and improve interaction process among themselves within group, hence, farmers’ group gave opportunity for farmers to motivate them to be better in managing their own farming activities through social interaction [3]. Farmers will be able to share their experience and
information among themselves. Interaction will lead farmers to share knowledge and enable them to learn each other and making better decision for their farming activities.

Many factors influences farmers’ groups to reach the goals of farmers’ group functions, such as: enhance learning process, facilitate cooperative action and networking, as well as delivering assistance for production unit [4]. Based on the description above mention, the objective of the study was to analyze the influence of social factors, such as: social capital, leadership style, the role of extension agents and group cohesiveness toward the effectiveness of farmers’ group functions in Rembang Regency. The result of the study is necessary to design strategies to improve farmers’ group functions in order to serve farmers to be better in managing farming system.

2. Materials and Methods
Survey method was used in this study. Survey method was applied where data is collected from a sample of the population to represent the entire population [5]. The research was conducted in Rembang Regency, Central Java Province. The location selection was carried out purposively by considering Rembang Regency has biggest potency in rice production as a buffer area for Central Java Province.

Respondents were selected by three cluster stages as follows: (1). Two districts were selected based on consideration as the highest and lowest rice production, namely: Kaliiori district and Pancur district; (2). Four villages were selected based on the lowest and highest rice production; (3). In each village, all members of farmers’ group were selected as respondents. There were 155 respondents in this research. Moreover, primary data and secondary data were collected from respondents with closed-ended interview as well as additional data from local institutions, such as: statistical office, Office for Agriculture and Food Crop Production (Dinas Pertanian dan Tanaman Pangan Kabupaten Rembang). Descriptive analysis and multiple linear regression were used for data analysis.

Multiple linear regression was aim to determine the strength of the relationship between two or more variables and to predict the value of dependent variable based on the independent virabel [6]. In this research, multiple linear regression analysis was used to analyzed the effect of independent variables, namely social capital, leadership style, group cohesiveness, role of extension agent towards the dependent variable of the effectiveness of farmers' group functions in Rembang Regency.

The formulation of multiple linear regression analysis was as follows:

\[ Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e \]

Information:
- \( Y \) = The effectiveness of farmers' group functions
- \( a \) = Intercept
- \( b_{(1,2,3)} \) = Variable Coefficient
- \( X_1 \) = Social capital
- \( X_2 \) = Leadership style
- \( X_3 \) = Group cohesiveness
- \( X_4 \) = Agricultural extension
- \( e \) = Error coefficient

3. Result and Discussion
This research explored the effectiveness of farmers' group functions in Rembang Regency. Respondents were members of farmers’ group in selected village. The distribution of respondents shows in Table 1.
Table 1. Distribution of Respondents (N:155)

| No | Name of farmer’s group | Year of group formation | Total member |
|----|------------------------|-------------------------|-------------|
| 1  | Pasopati               | 2002                    | 45          |
| 2  | Rukun Santoso         | 2004                    | 36          |
| 3  | Nirsambikolo          | 1989                    | 41          |
| 4  | Tani Utomo            | 2001                    | 33          |

The year of group formation gives a perception that group has more experience in group dynamics. Farmers’ groups are formed based on the same perceptions of members to achieve common goals to improve their farming management. It need better communication within the group to make farmers’ group to sustain in the future. Lack of knowledge about group communication can lead to negative group interactions. It need more effort from group members to understand in order to improve their communication skills [7].

3.1. Analysis results of factors affecting the effectiveness of farmers’ group functions

Table 2. Result of Regression Analysis

| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. | Collinearity Statistics | Tolerance | VIF |
|-------|------------------------------|----------------------------|---|------|-------------------------|-----------|-----|
|       | B                             | Std. Error                 |   |      |                          |           |     |
| (Constant) | 13,522                    | 3,013                      | 4,800 | 0,000 |
| Social Capital | 0,524                      | 0,127                      | 4,175 | 0,000 | 0,520                   | 0,520     | 1,90 |
| Leadership style | 0,340                      | 0,156                      | 2,131 | 0,035 | 0,375                   | 0,375     | 2,64 |
| Group cohesiveness | 0,790                      | 0,092                      | 8,077 | 0,000 | 0,456                   | 0,456     | 2,19 |
| Role of extension agent | 0,253                      | 0,091                      | 2,756 | 0,006 | 0,444                   | 0,444     | 2,22 |

a. Dependent Variable: The effectiveness of farmers’ group functions

b. R² = 0.857
c. Regression F = 178.282 (sig = 0.000)

The data analysis shows in the Table 2. Based on table 2., the p value was 0.00, it means less than 0.05. It can be said that social capital, leadership style, group cohesiveness, and the role of extension agent had a significant effect toward the effectiveness of farmers’ group functions in Rembang Regency. Meanwhile, equation regression as follows:

\[ Y = 13,522 + 0,524 X_1 + 0,340 X_2 + 0,790 X_3 + 0,253 X_4 + 0,750 X_5 \]

The positive regression coefficient value shows whenever there is increasing value of independent variables, the effectiveness of farmers’ group functions will also increase. There are three roles of farmers’ group, namely to enhance learning process, facilitate cooperative action and networking, as well as delivering assistance for production unit. The role of farmers’ groups as learning process to facilitate farmers to share resources among farmers to increase knowledge, skills and attitudes. It is important for farmers’ groups to provide agricultural information and technological skills through the extension process. Based on the results of t test, p value of social capital was 0.000, p value less than 0.05. Partially, social capital had a significant effect toward the effectiveness of farmers’ group functions. Trust and norms will encourage members to stay in the group.
The social capital will determine the strength of the relationship among members. High level of social capital will stimulate cohesiveness. It will give the positive impact on interaction among farmers and it will make them to cooperate more effectively, hence it will improve their farming management [8].

Based on the results of the partially regression analysis for leadership style, p value was 0.000, p value less than 0.05, meaning that the leadership style had a significant effect toward the effectiveness of farmers' group functions. A group leader becomes a vital role in managing organizational capacity. The high leadership level of the group leader can encourage the behavior of groups and their members to achieve their goals effectively. This means that the more confidence in managing the group, the higher the productivity of the group [9]. A good farmers’ leader will influence other people to cooperate to achieve their goals. There was a significant relationship between the way a farmers’ leader guided his group and improving management of farming system among chili farmers in Bawang District, Batang Regency [10]. Increasing institutional capacities is a key to improve farmer’s welfare through building network within farmers’ group.

Based on the results of the t test analysis for group cohesiveness, p value was 0.000, p value less than 0.05, meaning that group cohesiveness had a significant effect toward the effectiveness of farmers’ group functions. High level of group cohesiveness effect sense of belonging, mutual respect and trust inside organization. Cohesiveness constructs group member to attract each other and share same group’s goal. It will improve capacity among their members. Group cohesiveness can be used to maintain group to sustain because of the desire of members to remain in the group. Group activities can be used by the farmers’ group to maintain togetherness [11]. Group cohesiveness is to maintain relationship between members, but a very complex process that can affect interpersonal relationships among group members.

Based on the results of the t test analysis for the role of extension agents, p value was 0.000, p value less than 0.05, meaning that agricultural extension agents had a significant effect toward the effectiveness of farmers' group functions. Agricultural extension agents become important actor in agriculture sector who advise and guard and guide farmers to solve their own problems related with farming management. This task requires capacity to empower people, communication skills and a commitment to help farmers. An extension agent will give guidance for farmers to explore and develop their potency based on farmers’ resources.

3.2. The effectiveness of farmers' group functions
There are three functions of farmers' group, namely: enhancing learning process, facilitating cooperative action and networking, and delivering assistance for production unit [4]. Activities in farmer’s group allowed the farmers to improve their participation as well as interaction among farmers. Farmers’ group need to find activities to help farmers to working together and maintain their resources within the group. Moreover, Farmers need to feel secure whenever they were doing activities as group’s member. Trust and norm within the group will guide farmers to achieve their goals through joining positive activities in the group. Hence, it will improve the effectiveness of farmers’ group functions.

4. Conclusions
Social capital factors, leadership style, group cohesiveness, the role of extension agents simultaneously or partially had a significant effect toward the effectiveness of farmers' group functions (enhancing learning process, facilitating cooperative action and networking, and delivering assistance for production unit). The result can be concluded that it need efforts to increase farmers’ motivation to actively participate in group activities. In
addition, it is important to maximizing the role of agricultural extension agents by providing training skill.

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