Sustainability Group Status Analysis and The Role of Institution of Farmer Groups on The Income of Group Members

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Abstract. This research was conducted to find out how good institutional management and the benefits felt by members by joining farmer groups. The method used in this research is mix method and multiple regression analysis. The results showed that (1) the group had good institutional strength based on the process of group formation; (2) The group has a high institutional sustainability status which shows that the institutional management in the group has run well; (3) There are some factors that have influence to the group sustainability, namely member motivation, group leadership, knowledge of member, access to information, role of village apparatus, and role of member. The most influencer is access to information; (4)The group has a role in helping to solve farming problems, easy access to information, markets, technology and capital as well as resource efficiency and (5) Revenues received by the group in 2019 amounting to Rp. 785,497.5 / 100 kg of input with an R / C ratio of 1, 85 which means the coffee processing business is profitable and can continue to run

1. Introduction

Joining of individual farmers into farmer groups with good management is a solution for farmers to be able to develop their business. According to Sulaksana[1], the joining of farmers into farmer groups provides many benefits, namely the faster the penetration (diffusion) of new innovations or technologies, the increasing market orientation, both related to inputs and products produced, and can make better use of themoptimally. However, not all farmer groups that have been formed can run well, there are still farmer groups that have failed in their lives[2]–[4].

According to Kenworthy ([5] and Ridley[6], the failure of farmer groups is caused by decreasing group dynamics, which affects the performance of a group. The decline in group dynamics can be caused by technical factors and social factors. Technical factors are crop failure due to pest attacks, poor water conditions and supplies and so on, while social factors such as the realization of an agreed plan that always cannot be fulfilled, lack of trust from members of the board in managing group capital, and low ability to establish relationships with other institutions, causing farmer groups to fail and experience failure. Even so, many farmer groups have succeeded in developing their businesses and can improve the economic welfare of their members. One of the groups has succeeded is Sugih Jaya Farmer Group which
has a coffee business. It has been surviving more than 10 years and has expand marketing of group product to the large city. Then, it shows group dynamics in group[7]-[9].

There is a shared motivation to increase business income and economic welfare, encouraging coffee farmers to join the Sugih Jaya Farmer Group. The formation of farmer groups aims to make it easier for farmers to obtain information and assistance from the government, which is often difficult for individual farmers to obtain. In addition, by joining into farmer groups, farmers can share experiences between members so that the obstacles faced are easier to overcome because they are resolved together, and also act as mediators if there are members involved in conflict so that problems that arise can be resolved well ([10][2]). In some cases, according to Alimirzaei [11], individual factors of farmer affect the motivation and participation of members in group activity. It also affects the group dynamics.

The existence of group can affect the rise of income of group members. According to Safe’i et al.[12], who conducted the research on the existence of group and the effect on group member income in forestry farmer group, told that the group effectively has an effect to member income. The guiding service of related stakeholders has made the capacity improvement of group members. Then the rise of capacity could make rise of activity and income of member.

Sugih Jaya Farmer Group has been built by 8 years ago and has operated coffee business as member core business which looks like raising year by year. It is interested to see how it can still active and how it’s sustainability affect the income of members.

This research was conducted to see the sustainability status of the Sugih Jaya Farmer Group and the role of the group towards its members and its effect on increasing the income of group members. Based on the description above, the objectives of this study are: to identify the formation process of the Sugih Jaya Farmer Group; to analyze the sustainability status of the Sugih Jaya Farmer Group; to identify the influence factors to sustainability of group; to identify institutional role of the Sugih Jaya Farmers Group towards members; and to analyze the income and the role of the group on the increase in income of the members of the Sugih Jaya Farmer Group.

2. Research Methods

Research was conducted at the Sugih Jaya Farmer Group, Lemahsugih Village, Lemahsugih District, Majalengka Regency. The location selection was carried out purposively (deliberately) with the consideration that in that area there are coffee farmer groups that have developed coffee businesses in groups so far and can improve the welfare of its members, namely the Sugih Jaya Coffee Farmer Group and has become the highest producer area of coffee in Majalengka. The process of collecting primary and secondary data was carried out in August-September 2019.

Primary data were obtained by conducting interviews with all members of the farmer group and the head of the Sugih Jaya Farmers Group as key informants because they had the most knowledge about the Sugih Jaya Farmers Group. Secondary data were obtained from the Ministry of Agriculture of the Republic of Indonesia, the Ministry of Industry, books, journals, thesis, internet and other relevant reference sources.

Determination of the number of respondents in the study using the census method because the number of members of the coffee farmers who are members of the Sugih Jaya Farmers Group is not too many, namely 32 peoples. The use of the census method can only be done for a finite population and not too many subjects [13].

The method used in this research is mix method, quantitative and qualitative descriptive method. The descriptive research method is research that is intended to collect information about the research subject and the behavior of the research subject in a certain period ([14],[15]). Meanwhile, what is meant by quantitative descriptive method is a method that presents data or numbers that are transformed into a form so that readers can more easily understand and interpret the meaning of the data or numbers displayed.
Income analysis in this study used to see how much the rise of income of member. Meanwhile, to analyze the institutional formation process, sustainability status and institutional role of members, quantitative descriptive analysis was used ([17],[18]). To see the sustainability of farmer group, deeply analyze on membership restrictions, organizational structure and institutional rules, mechanisms for imposing sanctions, mechanisms for conflict resolution, group constitutional rules and recognition from the government regarding the existence of farmer groups. To identify the influence factors to group sustainability, multiple regression is used as a technique analysis.

3. Results and Discussion

3.1. Formation Process
The group has been built in 2012 with the name Sugih Jaya Farmer Group. The number of group member is 30 peoples. The structure was the chair, secretary, treasury, marketing and processing. This structure is still using by this time. The purpose of group was to help each other to make useful of coffee plantation they have. In 2018, the union of farmer group was formed, with the name still Sugih Jaya Farmer Group Union. It consists of 5 farmer groups, namely Sugih Jaya, Wirabuana, Lingkung Gunung, Cipang Rumasang, and Nangkarya Farmer group. The total amount of member is around 70 peoples. However, actually there are active and inactive members of group.

The union group has purposes to help the group to have a coffee market or expanding market, to promote the region potential, and to change the farmer mindset. The way is to try to use media online as a tool for marketing. The Union have plans to build a cooperative and coffee agrotourism in the future.

3.2. Sustainability Group Status
The indicators used in analyzing the sustainability of group institutions are membership restrictions, organizational structure and institutional rules, mechanisms for imposing sanctions, mechanisms for conflict resolution, group constitutional rules and recognition from the government regarding the existence of farmer groups.

The sum of scores or scores obtained based on Table 1 is 16 or is in the range of high sustainability status, namely (14-18) in Table 1, so it can be concluded that the Sugih Jaya Farmer Group has a high institutional sustainability status. The high status of institutional sustainability shows that the institutional management of the Sugih Jaya Farmer Group has been running well so that it can be sustainable and continue to provide benefits to its members.

| No. | Sustainability Variable | High (Skor 3) | Medium (Skor 2) | Low (Skor 1) | Total |
|-----|------------------------|--------------|----------------|-------------|-------|
|     | Whether or not there are membership restrictions | √             |                |             | 2     |
|     | The existence of an organizational structure and institutional rules of the game |              | √             |             | 2     |
|     | There is a mechanism for imposing sanctions |              | √             |             | 3     |
|     | There is a conflict resolution mechanism |              | √             |             | 3     |
|     | The existence of group constitutional rules |              | √             |             | 3     |
|     | There is recognition from the government |              |               | √           | 3     |
|     | Total |               |               |              | 16    |
3.2.1. Whether or not there are membership restrictions.

Whether there is a membership limit or not is one of the parameters that determines the level of group sustainability, the clearer the membership limitations in the group the higher the level of group sustainability because the group can be well organized[19]. Based on the results of the research, the limit of membership in the Sugih Jaya Farmer Group institution has a moderate value, meaning that the Sugih Jaya Farmers Group has regulations regarding group membership restrictions and conditions for joining, but it is not clearly written in the group basic norms or law of group. Value is being given because the Sugih Jaya Farmer Group has clear regulations regarding membership restrictions and requirements for membership that are well executed, but because the group has a long age of more than 10 years and has passed several changes of group leaders resulting in group law not its existence is certain. This is due to the change of group chairman which is only carried out by deliberation without being followed by the transfer of group assets and the lack of attention of members to important group papers. This resulted in all the regulations that were applicable and implemented at the Sugih Jaya Farmer Group were informal rules, however, the informal rules that apply in the group are still obeyed and implemented properly by all members.

Membership limits in the Sugih Jaya Farmer Group are coffee farmers who are in the coffee plantation area and have reported to the group leader to become a member and receive recognition from other group members. There is also a requirement to become a new member of the Sugih Jaya Farmers Group, namely that the prospective member is a coffee farmer whose business activities are in the Lemahsugih area, this is intended to make it easier for members to reach the group. Business locations that are too far away make it difficult for farmers to get access to information as well as efficiency in transportation costs. In addition, another requirement is that every prospective new member who wants to join the group must meet the group leader to report and ask for permission to join the group membership. Furthermore, the group leader will introduce prospective new members to other members in a routine meeting that the group usually holds every month. If the other members agree, then officially the farmer becomes a member of the Sugih Jaya Farmers Group who are treated equally well with their rights and obligations as other group members.

3.2.2. The existence of an organizational structure and institutional rules of the game.

The organizational structure and institutional rules of the Sugih Jaya Farmer Group based on the results of the research have moderate value, meaning that the group has an organizational structure that carries out its duties well, and rules that are carried out well by all members[20]. The organizational structure or group apparatus in the Sugih Jaya Farmers Group is the chairman, deputy, secretary, treasurer and public relations.

The apparatus of the Sugih Jaya Farmers Group has their respective duties, the group leader has the task of protecting all group members if there are obstacles or conflicts, providing all information conveyed by other institutions outside the group to all members related to group business, fostering a sense of kinship between members and do good relations with parties outside the group. The deputy chairperson is in charge of replacing the group chairman's duties if the group leader is unable to carry out his duties. Other group instruments such as the secretary are in charge of recording the results of meetings in routine meetings held every month on the eighth. Recording is done so that important group data or information can be recorded and stored properly if needed. Furthermore, the role of the treasurer in the Sugih Jaya Farmers Group is to save the mandatory monthly membership fee which consists of retribution for waste and cattle ownership. The money collected is used to repair the group's damaged public facilities and to provide assistance to farmers who experience disaster. Another group apparatus, namely public relations, has the task of reminding all group members when there is a meeting or group meeting and preparing the equipment needed for the meeting. So far, both the group apparatus and the members of the Sugih Jaya
Farmers Group have carried out their duties properly by carrying out their respective rights and obligations.

Based on interviews conducted with the group leader, at the beginning of its establishment, the Sugih Jaya Farmers Group had an Basic Law or norms as a guideline or rules of the game in running a group business, but because of the age of the group which is quite old and has experienced several changes of group leaders and is only carried out by deliberation without being followed by the transfer of group securities to the new chairman, the group's Basic Law is not well maintained and its whereabouts are unknown. Nevertheless, all the rules of the game written in the group's statutes / bylaws are still carried out and are well obeyed by all members as the current informal rules.

Each member of the Sugih Jaya Farmers Group has an obligation to pay dues. Money collected from fees is collected to the group treasurer and used for group needs according to mutual agreement. A meeting of all group members is held every eighth of each month, the meeting aims to strengthen a sense of kinship between group members so that a strong and independent group is formed. The group meeting discussed all the activities carried out by the group, how the efforts to advance the group, sharing experiences and new information obtained, either from the Agriculture Service of Majalengka Regency or other sources for the progress of the group. In addition, in group meetings, deliberations can also be held if there is a conflict in the group and sanctions if there are members who violate the agreed rules so that problems that occur in the group can be resolved in a kinship manner. All farmers in the group have the same rights in expressing opinions related to efforts to advance the group.

### 3.2.3. There is a mechanism for imposing sanctions.

A good sanctioning mechanism is needed to form successful and sustainable farmer groups, the existence of a sanctioning mechanism makes members disciplined and obey all existing regulations properly[21]. Because if there are members who violate the rules, they will be given strict sanctions by the group so as to provide a deterrent effect for members who violate the rules and as lessons for other member farmers to carry out the rights and obligations of members as well as possible.

The mechanism for imposing sanctions on the Sugih Jaya Farmers Group based on the results of the research has a high value, meaning that the mechanism for imposing sanctions is carried out very well in the Sugih Jaya Farming Group. The sanction given if there is a member who violates the rules is that the group leader will give the first warning, but if the member still violates the rules then the group leader will give a second warning firmly, if the member still violates the penalty, namely the removal of the member concerned from the Sugih Jaya Farmers Group based on decisions that have been mutually agreed upon. These sanctions are really carried out as a consequence of violations committed by members so as to provide a deterrent effect and as a lesson for other members.

### 3.2.4. There is a conflict resolution mechanism.

Based on the results of the research, the conflict resolution mechanism applied in the Sugih Jaya Farmers Group has a high value, meaning that the Sugih Jaya Farmers Group has a conflict resolution mechanism in the rules of the game that is done well in the event of a conflict in the group. The conflict resolution mechanism in the Sugih Jaya Farmers Group is by way of kinship based on deliberation with all group members. Every conflict that occurs in the group is well discussed and resolved in group meetings. Members who experience conflicts at group meetings can express their problems so that the group can help resolve the conflicts that occur without taking sides with either party. This kind of conflict resolution mechanism is the most appropriate problem-solving mechanism in solving problems that occur in a group[7]. The group tries to provide a solution that is acceptable to both parties so that misunderstandings and conflicts can be resolved so as not to affect the business activities carried out by the group.
3.2.5. The existence of group constitutional rules.
The group constitutional rule in question is the existence of rules to change or create new rules within the group. The existence of group constitutional rules based on research results has high value, meaning that there are group rules that can change or create new rules in the group, and these rules are carried out well by group members. The Sugih Jaya Farmer Group has rules that can change or add new regulations based on the group’s agreement. The decision to change or create new rules for the betterment of the group can be made if all members agree to changes or additions to these rules that can increase the success of the group[22].

3.2.6. There is recognition from the government.
Groups that are recognized for their existence and have proof of an official letter from the government have a stronger status in the eyes of the law than groups that do not have recognition from the government. The recognition from the government to the Sugih Jaya Farmers Group based on the results of the research has a high value, meaning that there is recognition from the government regarding the existence of farmer groups marked by a certificate or official regulation from the government. The existence of an official statement from the government regarding the existence of the Sugih Jaya Farmer Group indicates the legality of the group so that it can make it easier for the group to get assistance and guidance from the government so that a strong and sustainable farmer group can be created and can increase member income[23].

3.3. The Factors which affect the group sustainability
Result of regression analysis shows that access to information becomes the most influence factors to group sustainability. In last three years, Sugih Jaya Farmer Group has cooperation with Agriculture Faculty, University of Majalengka in Research and community Service. In University guidance, group has expanded the market of coffee, not only in Majalengka, but also in Bandung and Jakarta. Therefore, the demand of Lemahsugih coffee has risen. It shows that the group has helped the member to solve such a problem.

Table 2. Result of Multiple Regression Analysis

| Variable                  | Regression Coefficient | T-Value | Probability |
|---------------------------|------------------------|---------|-------------|
| Motivation                | 0.197                  | 3.389   | 0.001**     |
| Group Leadership          | -0.280                 | -2.691  | 0.008**     |
| Knowledge                 | 0.146                  | 2.422   | 0.016*      |
| Access To Information     | 0.872                  | 8.861   | 0.000**     |
| Role of Village Apparatus | -0.145                 | -2.446  | 0.015*      |

*) Probability 5 %
**) Probability 1 %
3.4 The Income analysis of Coffee Business

This business cost represents costs incurred from a single processing unit, namely to process coffee beans *cherry* into *green beans* and *cascara*.

**Table 3. Cost Analysis of Coffee Business**

| No. | Cost     | Unit | Price (IDR) | Total  |
|-----|----------|------|-------------|--------|
| A   | Fixed Cost |      |             |        |
|     | a. Land rent | 8.300 | 8.300       | 1%     |
|     | b. Depreciation | 6.202.5 | 6.202.5  | 1%     |
|     | Total     |      |             | 14.502.5|
| B   | Variable Cost |      |             |        |
|     | a. Raw material | 7.000 | 700.000    | 76%    |
|     | b. Labor   | 200.000 | 200.000 | 22%    |
|     | Variable Cost |      |             | 900.000|
|     | Total Of Cost A+B | | 914.502,5 | |

From the table above, it is known that this land rental fee is a rental fee for processing in one process, namely 8,300 rupiahs. Meanwhile, the depreciation cost is calculated based on an inventory of any tools and machines used in the processing, which is calculated at 6,202.5 rupiahs and the total fixed cost is 14,502.5 rupiahs. Meanwhile, the raw material in the form of *cherries* coffee obtained from the purchase from farmers is 700,000 rupiahs. Labor costs are calculated in the number of *cherries* coffee processed, not based on time or number of workers. The total labor wage for processing coffee cherries is 100 kg, namely 200,000 rupiahs. Overall, the total variable cost for processing of 100 kg of coffee cherry is 900,000 rupiahs.

**Table 4. Revenue of Sugih Jaya Farmer Group**

| No. | Product | Price (IDR) | Production (Kg) | Revenue |
|-----|---------|-------------|-----------------|---------|
| 1   | *Green Bean* | 100.000 | 12              | 1.200.000|
| 2   | Cascara | 100.000 | 5               | 500.000 |
|     | Total Revenue | | | 1.700.000 |

Revenue from this farming business is the production value obtained from selling *greenbean* and *cascara*. The following is the data regarding the acceptance of the processing business *cherry* coffee. Based on table 4, it is known that the total revenue in the coffee cherry processing business using 100 kg of raw materials is Rp. 1,500,000 with the amount of sales *green bean* of Rp. 1,200,000 and cascara sales of Rp. 500,000.
Table 5. Profit of Coffee business

| No. | Component  | Value (IDR) |
|-----|------------|-------------|
|     | Revenue    | 1,700,000   |
|     | Total Cost | 914,502.5   |
|     | Profit     | 785,497.5   |

The profit that Sugih Jaya gets from this processing business is the difference between total revenue and total cost. Based on Table 5, it seems that for 100 kg raw material of coffee, member can have a profit around 785,497.5 rupiahs. The total processing input for group is 20 tons for around six months of harvesting period. Therefore, the sum of profit for group is 157,099,500 million rupiahs or around 9.241,147,06 rupiahs in average of member (17 active members of Sugih Jaya Farmer Group). It shows that coffee business as member group business is profitable and rises year by year according to leader’s explanation. It can be stated that group has a role in rising income of member.

4. Conclusion

The results showed that (1) the group had good institutional strength based on the process of group formation; (2) The group has a high institutional sustainability status which shows that the institutional management in the group has run well; (3) There are some factors that have influence to the group sustainability, namely member motivation, group leadership, knowledge of member, access to information, role of village apparatus, and role of member. The most influencer is access to information; 4) The group has a role in helping to solve farming problems, easy access to information, markets, technology and capital as well as resource efficiency and (5) Revenues received by the group in 2019 amounting to Rp. 785,497.5 / 100 kg of input with an R / C ratio of 1, 85 which means the coffee processing business is profitable and can continue to run.

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