The Role of Farmer Group Members in Building Farmers' Economic Institutions Through the Agribusiness Sub-terminal (AST) in Sidodadi Ramunia Village, Beringin District, Deli Serdang Regency

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Abstract. Farmers must be involved in the process of growing and developing the Agribusiness Sub Terminal (AST). Only then can this terminal play an optimal role. Therefore, they must be the subjects of the process. This study examined the level of the role of farmer group members and the factors that influence their participation in the Farmers' Economic Institution through the Agribusiness Sub Terminal (AST). The Sidodadi Ramunia Village in Beringin District, Deli Serdang Regency, was used as the location of the research. There are observation and interview methods with Likert scales that have been tested before for validity and reliability. Meanwhile, the data analysis used the linear regression method. The result of the study indicated that farmer group members are highly involved in building the Farmers' Economic Institution through the Agribusiness Sub Terminal (AST) with 91.54%. The roles of the agricultural extension worker and the head of the farmer group significantly influenced the farmer group members' roles. Additionally, farmers' independence also showed the same effect. Currently, no significant effect can be observed from government policies. Effective farmer institutions are expected to be able to make a real contribution to increasing their independence and dignity and improving their bargaining position.

Keywords: Agribusiness Sub Terminal (AST) · The role of agriculture extension · Head of farmer group · Farmer independence · Farmer group member

1 Introduction

The formation of farmer groups is a process of realizing consolidated agriculture so that they can produce optimally and efficiently. With the existence of consolidated agriculture in farmer groups, the procurement of production facilities and the sale of products can be carried out together. Institutional farmers in carrying out their roles require organizing with special skills to provide encouragement and assistance systematically. However,

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the problems faced in these institutions have several marketing patterns that are not able to support efforts to develop various types of commodities.

The basic problem for the majority of farmers in Indonesia is the inability to negotiate the price of their products. The bargaining position of them at this time is generally weak, and this is one of the obstacles to increasing theirs' income. This can be caused by agents or middlemen who play with market prices. If their bargaining position is strong and stable, then the benefits of increasing their bargaining position can be obtained, namely increasing access of rural communities in fair economic activities, so that the form of inequality and losses experienced by farmers can be avoided. This can be done if the farmers do not walk alone but gather strength in an institution that is truly capable of channeling their aspirations.

Therefore, the role of farmer groups is urgently needed in which there is the leadership of the head of farmer groups according to their functions, the role of government policy and agricultural extension should be more focused on efforts to build institutions through the Agribusiness Sub Terminal (AST). This institution can only play an optimal role if its growth and development are fully controlled by farmers so that farmers must become subjects in the process [1]. The AST as a market infrastructure is not only a place for buying and selling transactions but also a forum that can accommodate various interests of agribusiness actors, such as packaging, sorting, grading, storage, showroom, transportation, and training facilities and infrastructure. In addition, AST is also a place to communicate and exchange information for agribusiness actors.

In North Sumatra Province, more precisely in Deli Serdang Regency, Beringin District, Sidodadi Ramunia Village, there is an agribusiness institution, namely the Agribusiness Sub Terminal (AST). It was built, developed, and managed directly from, by, and for farmers in the village. This Agribusiness Sub Terminal (AST) was built on September 13, 2018. This development is based on deliberation and the interests of farmers who are members of the Juli Tani farmer group. This farmer group was the initiator of the formation of the AST. The most widely cultivated commodities by members of the Juli Tani farmer group are lowland rice and red chili. Their mainstay is red chili and has issued a new red chili variety, named Jusiber (Juli Tani Beringin). However, there are still problems in terms of markets and marketing of agricultural products in these farmer groups, such as long trade chains causing unstable prices between farmers, agents and markets, and others.

The role of agricultural extension workers has an influence on the level of activity of farmer group members in participating in group activities [2], active members in farmer groups will foster farmer group dynamics. One of the factors that influence the success of the group is the existence of leadership in the group. In connection with that, farmer groups are also built so that farmers have independence in farming and can develop their knowledge, attitudes, and skills about something new [3]. In this case, to strengthen farmer groups, the capacity and ability of the main actors and business actors must continue to be improved, one of which is through counseling with a farmer institutional development approach that includes the growth and development of farmer institutions. Therefore, the farmers can gather to develop their institutions into Farmer Economic Institutions (KEP) that are highly competitive, productive, apply good and sustainable business governance as stipulated in the Regulation of the Minister of Agriculture of

the Republic of Indonesia, number: 67/Permentan/sm.050/12/2016 concerning Farmer Institutional Development [4].

The Agribusiness Sub Terminal (AST), built by the Juli Tani farmer group in Sidodadi Ramunia Village, Beringin District, Deli Serdang Regency, is to support marketing activities and to improve the bargaining position of red chili farmers. This is certainly supported by several important parties involved in it, such as farmers, farmer group leaders, extension workers, and government policies.

Therefore, the objective of this study was to know the level of the role of farmer group members in developing Farmer Economic Institutions through AST and determine the factors that influence the role of farmer group members in developing AST in Sidodadi Ramunia Village, Beringin District, Deli Serdang Regency, North Sumatra Province.

2 Material and Methods

2.1 Research Method and Locations

The research used was an explanative research method with a qualitative approach. Sidodadi Ramunia village Beringin district, Deli Serdang regency was chosen purposively as a location for the research. The choice is based on the existence of a Farmer Economic Institution in the form of Agribusiness Sub Terminal (AST) that is located in one of the farmer groups, named Juli Tani, and has the potential to be developed. The purpose of the method is to explain the influence of internal and external factors on the role of farmer group members on farmers' economic institutions.

2.2 Data Collection Techniques

There are observation and interview methods by questionnaires with Likert scale that tested before for validity and reliability used to collect the data. The population of this study is 105 farmers who are members of the Juli Tani farmers Group. The amount of the samples carries out by simple random sampling method using the Taro Yamane formula with a precision of 10%. The number of samples that became respondents was 52 people.

2.3 Data Analysis

Analysis of data was carried out to determine the level of the role of farmer group members in building farmer economic institutions through agribusiness sub-terminal (AST). The Role level of farmer group members measure by the following formula:

$$\frac{respondent\ score\ obtained}{maximum\ score\ of\ response} \times 100\% \quad (1)$$

Meanwhile, analyzing the factors that influence the role of farmer group members in developing Farmer Economic Institutions through the Agribusiness Sub Terminal (STA) used the linear regression using the following formula:

$$Y = a + b1X1 + b2X2 + b3X3 + b4 \quad (2)$$

Note:

Y = role of farmer group member
X1 = role of agricultural extension worker
X2 = role of the head of the farmer
X3 = farmer independence
X4 = government policies
a = constant
b = regression coefficient

3 Results and Discussion

3.1 Description of Respondent Characteristics

Based on the age of the respondents, it showed that 42.3% of respondents were aged between 31 to 40 years, followed by 41 to 50 years old (38%). Only around 20% of members are over 51 years old. There is a relationship between age with a person's membership to participate in a group or organization. In addition, there are several facts that indicate that age has an effect on someone's activeness to participate [5]. The younger farmers usually have high curiosity, especially about what they do not know so that they try to adopt innovations more quickly even though they are still inexperienced in the matter of adoption (Table 1).

Meanwhile, the number of male respondents is more than female respondents found in this study. The number of male respondents as many as 50 people or 96.15% and the number of female respondents as many as 2 people or 3.84%.

Table 1. Characteristics of respondents based on age

No	Ages (year)	Number of respondent (People)	Percentage (%)
1	31–40	22	42
2	41–50	20	38
3	51–60	4	8
4	>61	6	12
	Total	52	100

Source: Primary Data Analysis

Table 2. Characteristics of respondents by gender

No	Gender	Number of respondents (people)	Percentage (%)
1	Male	50	96
2	Female	2	4
	Total	**52**	100

Source: Primary Data Analysis

Table 3. Characteristics of respondent by educational background

No	Educational level	Number of respondents (people)	Percentage (%)
1	Primary	8	15
2	Junior high	4	8
3	Senior high	39	75
4	University degree	1	2
	Total	52	100

Source: Primary Data Analysis

The condition result from Table 2 is also supported by the physical ability of men who are more productive in doing work or farming. The men are always described as masculine, superior who are always above women, their ability to make emotional decisions tends to be realistic and rational. Participation given by a man and woman in development is different. This is due to the social stratification system formed in society, which distinguishes the position and degree between men and women. This difference in position and degree will lead to differences in rights and obligations between men and women [6].

The level of education can affect the speed of respondents in understanding and accepting an innovation or technology. In the agricultural sector, education is expected to assist members of farmer groups in efforts to increase production and productivity.

Table 3 shows that the educational background of the respondents is in Senior high school (75%), elementary school 15%, junior high school, and a university degree (2%) respectively. The low level of education is one of the inhibiting factors for the experience of the agricultural sector in rural areas, because low education affects the ability of farmers to implement innovations. The higher a farmer's education, the better his decisions in farming are more productive and the higher a person's education, the quality of his work will also increase.

However, experience affects the process of forming knowledge or skills about the method of a job because of the implementation of job duties. As shown in Table 4, more than 80% of respondents have been involved in agriculture for 10 to 30 years. Only 10% have been involved longer. Experience and farming skills that a person has for a long time can be a way of life and provide benefits for them in farming [7]. Experience can develop a person's competence and develop his farming abilities from the experience gained [8].

3.2 Analysis of the Level of the Role of Farmer Group Members in Developing Farmers' Economic Institutions Through Agribusiness Sub Terminals (AST)

Farmer group members' contribution to the development of Farmer Economic Institutions in Sidodadi Ramunia Village is evaluated using the role value incorporating farmer capacity and their participation.

According to Table 5, the role of farmer group members level shows in very high categories both for farmer capacity (91,69%) and farmer participation (91,41%). It means

Table 4. Agricultural experiences of respondents

No	Experience (year)	Number of Respondent (people)	Percentage (%)
1	10–30	42	81
2	>30	10	19
	Total	52	100

Table 5. The level of farmer group member in developing agribusiness sub terminal

No	Indicators	Score obtained	Score maximum	Level of role (%)	Description
1	Farmer capacity	1.192	1.300	91,69	Very high
2	Farmer participation	1.426	1.560	91,41	Very high
	Total	**2.618**	**2.860**	**91,53**	Very high

that farmer group members played a very significant role in the establishment of Farmer Economic Institutions by establishing the Agribusiness Sub Terminal (AST) in Sidodadi Ramunia Village. This is because members of farmer groups are the main actors and business actors are agents who are expected to be able to develop and advance the farming sector within their farmer groups. Therefore, members of farmer groups are moved to do things that are considered useful and more profitable. It is possible for farmers to build institutional capacity by examining indicators such as the relationship between goals and needs of members, innovativeness, and sustainability of institutions, as well as leadership and collaboration with others.

3.3 Analysis of Factors Affecting the Role of Farmer Group Members in Developing Farmers' Economic Institutions Through Agribusiness Sub Terminals (ATS)

Analysis of the factors that influence the role of farmer group members in building farmer's economic institutions through the Agribusiness Sub Terminal (AST) includes the role of agricultural extension workers, the role of farmer group leaders, farmer independence, and government policies. The results of the analysis of the factors that influence the role of the members of the farmer group can be seen in Table 6.

The results of multiple linear regression analysis on the role of farmer group members in building farmers' economic institutions through sub-terminal Agribusiness, shown in the equation as follow:

$$Y = 6,971 + 0,221X_1 + 0,368X_2 + 0,732X_3 + 0,037X_4$$

As shown on Table 6, partially there are three variables significantly affect the role of Farmer group member namely the role of agricultural worker, the role of head of farmer

Table 6. Analysis of factors affecting the role of farmer group members in developing farmers' economic institutions through agribusiness sub terminals

No	Variable	Regression Coefficient	t count	Sig α	Description
1	Role of agricultural worker	.221	2.336	.024	significant
2	Role of head farmer group	.368	3.802	.000	significant
3	Farmer independence	.732	4.437	,000	significant
4	Government policies	.037	.824	.824	Non-significant

R: .731
R Square: .534
Constanta: 6.791
f count: 13.470
f Table (5%): 2.57
t Table (5%): 2.011

Source: Primary Data Analysis

group, and farmer independent, However Government policy shows non significantly effect. The role of agriculture worker the role of agricultural extension workers is proven to increase the development of farmer groups.

Meanwhile, the role of the head of the farmer group is in the high enough category so that it has a significant effect on the level of the role of farmer group members in building Farmer Economic Institutions through the Agribusiness Sub Terminal (STA) in Sidodadi Ramunia Village, Beringin District. Research previously [9] also states that the role of farmer contact leadership has a significant effect on groups to achieve goals, improve communication, increase farmer motivation, facilitate agricultural infrastructure, and solve problems. The role of the farmer group leader as a liaison agent in communication and the leader is categorized as satisfactory. This role is effectively used in the process of spreading innovation and building Farmer Economic Institutions through Agribusiness Sub Terminals (AST) within farmer groups.

From Table 6 significant effect also shown by farmer independence. Farmer independence can be evaluated by having a well-managed farming plan, being able to fully utilize the potential of their natural resources, being able to express their opinions in farmer group meetings without being intimidated by other parties and having the financial capability to manage their individual farms. Farmer groups are built so that they have independence in farming and are able to develop their knowledge, attitudes and skills about something new [3]. Three important factors affect the level of independence of farmers namely: awareness of their needs; individual characteristics (achievement motivation, perception of innovation, courage to take risks, creativity) and farmers' access to information. The factors that influence the independence of farmers through extension are extension performance, level of formal education, social status, level of cosmopolitan, permanent farmer resource control, institutional support, and linkages to social norms

that apply. The determinants of the level of farmer participation in implementing government programs include farmer education, training that has been followed, program socialization, social status, and mentoring activities [10].

Government policies should be able to influence the level of role of farmer group members in developing Farmer Economic Institutions through Agribusiness Sub Terminal (STA) but in this case, government policy does not affect the role of farmer group members. The facts found indicate that government policies are considered to have no intervention regarding the marketing of agricultural production of red chili farmers in Sidodadi Ramunia Village, in terms of both marketing facilities and infrastructure such as transportation, thus affecting agricultural activities in Sidodadi Ramunia Village, unstable prices of agricultural products in the market.

4 Conclusions

Farmer group members played a very high role (91,53%) in building Farmer Economic Institutions by establishing the Agribusiness Sub Terminal (AST) in Sidodadi Ramunia Village.

The role of the agricultural extension worker and the head of the farmer group significantly influenced *farmer group members*' *roles*. Additionally, farmers' independence also showed the same effect. Currently, no significant effect can be observed from government policies.

We recommend that the active agricultural extension workers and farmer group leaders can encourage farmer group members to play an active role in increasing their participation in an effort to encourage farmers' independence in farming, and increase agricultural productivity through the Agribusiness Sub Terminal (AST).

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