






Analysis of the Contribution of Agribusiness Microfinance Institutions on Increasing Farmers Income in Serdang Bedagai District

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Abstract. This study aims to determine the existence of agribusiness microfinance institutions (LKMA) and their contribution to farmers' income. The research method used is descriptive quantitative method in Pematang Setrak Village, Teluk Mengkudu District, Serdang Bedagai Regency. Sampling was done randomly with the number of active members in Gapoktan Sri Karya as many as 70 people from 4 farmer groups. The data collected in the form of primary data and secondary data. The analytical method used is descriptive quantitative using Spearman rank correlation analysis and multiple linear regression. The results showed that the LKMA that still exists and has the potential to be developed is the contribution of farmer groups who are members of the Gapoktan who cultivate food plants commodities, while farmers who cultivate livestock and plantation commodities have not been incorporated. The average contribution of LKMA to farmers' income looks very good at 82.31%. The results of the correlation analysis between LKMA as a management and marketing facilitator on farmer's income showed a significant relationship, but LKMA as a financial facilitator did not show a significant relationship to farmers' income. Then the variable amount of assets and savings have a significant effect on farmers' income. But the variable frequency of financing and the amount of savings have no effect on farmers' income. This study recommends the bank or government to provide assistance or guidance in increasing access to capital. To the management of LKMA to further improve the quality of management and member recruitment.

Keywords: LKMA · Income · Farmers

1 Introduction

Agricultural development is an important aspect that cannot be separated from national economic development. Based on research conducted in various countries, it is found that there is a link between agricultural development and industrial sector development. The success of the agricultural sector as a provider of food and increasing income can spur the development of the industrial and service sectors while accelerating the transformation of the national economy [1]. However, capital is the main problem that

often arises in the development of food agriculture. Capital is needed if someone works in the agricultural sector. They need capital to meet the needs of the farming process, such as labor costs, buying fertilizers and pesticides. When farmers experience a lack of capital, farmers cannot carry out the production process optimally. Therefore, farmers often take the road in debt. of course, the borrowing mechanism in each place is not the same. If farmers borrow from banks, the risk borne is high bank interest [2]. On the financing side, there are still many farmers who have difficulty getting access to credit from banks, either due to technical reasons such as not having guarantees or non-technical constraints such as limited access to information to banks [3]. The limitations of farmers or business actors in the agricultural sector in accessing banks or financial institutions due to the absence of collateral, lack of understanding of financial institution administration, high transaction costs and farmers' payment methods that follow the seasonality of the harvest. Therefore, strong policy support from the government is needed to create agricultural financing institutions that are able to overcome capital problems. Microfinance institutions have been used as a solution to reduce poverty and increase financial inclusion in several countries. Microfinance institutions focus on providing credit to low-income people who do not have access to formal banks [4].

Rural Agribusiness Development (PUAP) is a program of the ministry of agriculture in order to improve the quality of life of farmers, independence, welfare and business capital assistance for farmers. With the implementation of PUAP, it is hoped that this will be a way for the growth and development of Agribusiness Microfinance Institutions (LKM) managed by Gapoktan in rural areas. LKMA is one of the many financial institutions formed from community empowerment programs in the context of poverty alleviation. The form of the PUAP program is the Community Direct Assistance (BLM) fund of Rp. 100 million which was lent by the state and channeled directly to the Gapoktan account. This fund is managed by a business unit within the Gapoktan and in the third year since the distribution of these funds, it is hoped that an LKMA will be established which is an independent business unit owned by Gapoktan with separate management. In Teluk Mengkudu District, precisely in Pematang Setrak Village, there is a Sri Karya Gapoktan which has run the PUAP program and has established an LKMA named LKMA Karya Berseri which was established in 2013. This Gapoktan has 9 food farmer groups, 2 livestock groups, 1 horticultural farmer group and 1 group of women. LKMA is only for food farmer groups.

The following Table 1 the realization of funds in the last five years:

Based on the Fig. 1, it can be seen that the realization of funds fluctuated. This is thought to be caused by certain factors such as the low interest in saving farmers and farmer participation. Based on the Serdang Bedagai Bulletin (2017), farmer groups who are members of the Gapoktan experience difficulties in accessing farming capital. In fact, with the existence of LKMA, farmers have easy access to capital.

2 Research Methods

This research is a case study by looking directly at the situation in the field. This research was conducted in the Sri Karya Gapoktan area in Serdang Bedagai Regency. The selection of the research location was done deliberately, because this area has an LKMA that

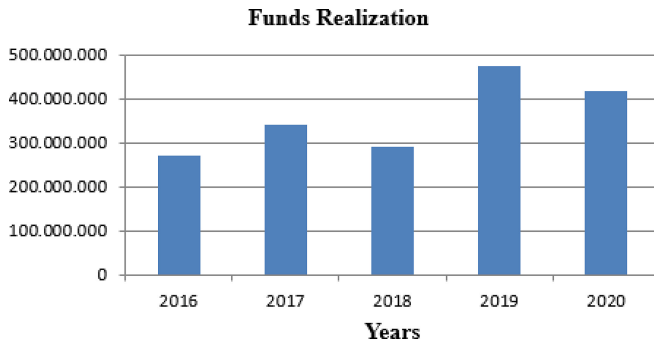


Fig. 1. Diagram of Realization of Funds (Rupiah) in the Last 5 Years

is still running according to the characteristics of this research. The research population is the entire Sri Karya Gapoktan farmers who are registered as members, as many as 236 people. The number of samples was determined as many as 70 people through the use of the slovin method and the sampling was random. The data collected in the form of primary and secondary data, both quantitative and qualitative.

The data obtained will be analyzed in a quantitative descriptive way to see the mechanism of savings and loans [5]. Then to see the role of LKMA on income, it is analyzed using a Likert scale [6]. To find out the relationship between LKMA's role on income, it was analyzed by Spearman's Rank test. Meanwhile, to analyze the effect of LKMA financing on farmers' income, multiple linear regression analysis was used.

3 Results and Discussion

3.1 Saving and Loan Mechanism

LKMA is a financial institution that assists farmers in accessing capital so as to provide benefits to farmers. In addition to borrowing, farmers also save where there are five types of savings products, namely: (1). Community Savings (Sightseeing); (2). Time Savings (Taska); (3). Sacrifice Savings (Tasyakur); (4). Education Savings (Taspend); (5). Savings for Pregnant Women (Tabumil).

Based on interviews with farmers and LKMA administrators, information was obtained that to borrow there is no need for collateral or collateral such as land certificates, house certificates, livestock and others, so it is very different when compared to other financial institutions. As for the installment payments, members must come directly to the LKMA where the period given is one planting season or four months with the amount of interest to be paid is 2%. If the farmer experiences crop failure and the loss reaches more than 50%, the loan money is not subject to interest, but if the farmer experiences crop failure and the loss is less than 50%, the farmer will still be charged 2% interest. The agreed time period if farmers experience crop failure is 4 months or one planting season and the farmers concerned can still apply for loans to the LKMA. However, if the farmer is late in returning the loan without a justified reason, he will be subject to a fine of 0.05% of the loan fund.

Table 1. Name of Sri Karya Farmers Group, Number of members and Status in LKMA

No	Farmer Group Name	Number of Members (Persons)	Status
1.	Fajar	61	Join
2.	Sri Murni 1	70	Join
3.	Sri Murni 2	65	Join
4.	Mekar Jaya	40	Join
5.	Sri Karya	70	Not Joined
6.	Sri Murni 3	70	Not Joined
7.	Sri Wahyuni	63	Not Joined
8.	Sumber Rezeki 1	51	Not Joined
9.	Sumber Rezeki 2	57	Not Joined
	Amount	547	

Table 2. Score Indicators for the Role of LKMA Karya Berseri as Management Facilitator

No.	Role Indicator	Score	(%)	Category
1.	Conduct farming management training	162	77.14	Currently
2.	Conduct HR management guidance	158	75.23	Currently
3.	Carry out coaching or guidance from LKMA	157	74.76	Currently
4.	Good cooperative relationship with each member	163	77.61	Currently
5.	Conducting guidance on the management of farm inputs	152	72.38	Currently
6.	Conduct discussions to increase production	157	74.76	Currently
	Average	158	75.31	Currently

3.2 LKMA'S Role on Revenue

The Role of LKMA Karya Bereri as Management Facilitator. LKMA Karya Berseri as a management facilitator is a function where LKMA can assist and provide services to direct and assist farmers in farming activities, especially management management such as human resource management, farm input management, management training and others.

Based on the Table 2, it can be seen that the assessment of the role of LKM-A as a management facilitator has an average score of 158.16 in the medium category and the average percentage is 75.31%. This shows that the role of LKM-A as a management facilitator is quite well run. The highest score on the role indicator is in the statement of a good cooperative relationship for each member with a score of 163 and a percentage of 77.61%. The lowest score is found in the statement of conducting guidance on the management of farm inputs with a score of 152 and a percentage of 72.38. It can define

Table 3. Score Indicators for the Role of LKMA Karya Bereri as Marketing Facilitator

No.	Role Indicator	Score	(%)	Category
1.	Accommodate/receive farming results	190	90.47	Tall
2.	Help provide market access	172	81.90	Tall
3.	Promotion to the other party	156	74.28	Currently
4.	Collaborating with consumers	161	76.66	Currently
5.	Provide warehouse for storage	192	91.42	Tall
6.	Provide recommendations for selling farm products	163	77.61	Currently
	Average	172	82.05	Tall

that The role of LKM-A Karya Berseri as a management facilitator is very necessary to assist farmers in managing farm management. It is known that farming activities require a good management in order to achieve maximum profit. Based on the answers given by the respondents, LKM-A is good enough, but it is necessary to re-evaluate the material and number of LKM-A administrators. This is in accordance with research by [7] about the sustainability of agricultural financial institutions in Yogyakarta which concluded that the participation of members, the number of administrators and the work program of the LKMA are the main keys in forming an integrated and coordinated management where the institution will be strong if the management is structured systematically.

The Role of LKMA Karya Bereri as Marketing Facilitator. The role of LKMA Karya Berseri as a marketing facilitator is a function where LKMA can assist and provide services to direct and assist farmers in marketing their farm products.

Based on the Table 3, for the variable role of LKM-A as a marketing facilitator is 172.33 with a high category and a percentage of 82.05%. This shows that the role of LKM-A as a marketing facilitator is going well. The highest score is in the statement providing warehouses for storage with a score of 192 and a percentage of 91.42. This is because LKM-A Karya Seri and Gapoktan Sri Karya do provide 3 warehouses for storing farm products. Many farmers are satisfied with the warehouse facilities provided. Meanwhile, the lowest score is in the statement of promoting other parties with a score of 156 and a percentage of 74.28%. In general, the role of the LKMA as a facilitator has been fulfilled by the marketing function activities carried out by the institution in terms of the product storage function. This is in accordance with research by Darwanto.et al. (discussing the financing model of Islamic Microfinance Institutions for strengthening the agricultural sector stating that Islamic microfinance institutions have played an important role in the development of marketing management such as guaranteeing product storage areas and assisting farmers in increasing the adoption of product sales through digital media or e-commerce. In addition, according [8] all the institutions in Indonesia have the facilities to assurance the capital in order to increase the revenue of farmers.

Table 4. Indicators of the Role of LKMA Karya Bereri as a Financial Facilitator

No.	Role Indicator	Score	(%)	Category
1.	Provide loan management information	169	80.47	Tall
2.	Conducting loan management guidance	159	75.71	Currently
3.	Making financial reporting	175	83.33	Tall
4.	Bookkeeping	172	81.90	Tall
5.	Have a savings/save product	191	90.95	Tall
6.	Gives quite affordable interest	192	91.42	Tall
	Average	176	83.96	Tall

The Role of LKMA Karya Berseri as a Financial Facilitator. The role of the Karya Berseri LKMA as a financial facilitator is a function where the LKMA can assist and provide financial services.

Based on the Table 4, the average score of the LKM-A role variable is 176.33 with the high category and the percentage level of 83.96%. This shows that the role of LKM-A Karya Berseri as a financial facilitator is going well. The highest score is found in the statement of providing affordable interest with a total score of 192 and has an average of 91.42 in the high category. While the lowest score is found in the statement of conducting loan management guidance with a score of 159 and the medium category. Based on the facts in the field, the guidance on the management of loan funds is not routinely carried out. This is because the number of LKM-A administrators is less than the number of farmers who borrow. This is in accordance with research [9] about the effectiveness of microfinance institutions for beef farmers with a beef perspective in South Sulawesi Province which states that microfinance institutions will run optimally if the participation of their members increases, followed by LKMA work programs that are systematically structured so that the main objectives of the LKMA can be achieved. Achieved specifically for improving the management of farm financial management among farmers.

Farmers' Income. The existence of LKMA will certainly affect the income of farmers. This is because LKMAs not only provide capital but also provide easy market access, good management and loan management.

Based on the Table 5, the average score of the farmer's opinion variable is 184.6 in the high category and the average percentage is 87.93%. This shows that the role of LKM-A has an impact on farmers' income. The highest score is found in the statement that farmers' income is sufficient to meet loan payments with a score of 190. Meanwhile, the lowest score is found in the statement of better management and farm inputs with a score of 182. By following the guidance provided by LKM-A, farmers' yields increase. This can happen because LKM-A provides important inputs in managing farm inputs. The sale of proceeds is also easier because LKM-A cooperates with consumers. It is the same the research by [10] about Microfinance Institutions and Crop Incomes of Rural Farm

Table 5. Indicators of Farmer Income

No.	Role Indicator	Score	(%)	Category
1.	Guidance and training increase crop yields	182	86.66	Tall
2.	Easy yield sale	183	87.14	Tall
3.	The financing made increases income	184	87.61	Tall
4.	Farmers' income is sufficient to meet loan payments	190	90.47	Tall
5.	Loans affect the income received	187	89.04	Tall
6.	Better management of farm management and input	182	86.66	Tall
	Average	185	87.93	Tall

Table 6. Spearman Rank Correlation of LKMA's Role on Farmers' Income

No.	Variable	The Role of Agribusiness Microfinance Institutions		
		Rs	Sig	Information
1.	Management Facilitator	0.354	0.03	Significantly related
2.	Marketing Facilitator	0.366	0.01	Significantly related
3.	Financial Facilitator	0.202	0.93	Not significantly related

Households: Some Evidence from Tanzania. It can be defined that financial management, marketing management and production management available in micro institutions are institutions that can guarantee an increase in farmers' income if all activities can be integrated and coordinated with each other.

Relationship of LKMA's Role to Farmer's Income. Based on the results of the Spearman rank test, the level of relationship between the role of LKMA and farmers' income can be seen in the following table:

Based on the Table 6, it can be seen that as a management facilitator has an rs value of 0.354 and as a marketing facilitator has an rs value of 0.366. Therefore, the role of LKMA as a management and marketing facilitator on farmer's income has a fairly strong correlation and has a real relationship. Meanwhile, as a financial facilitator, the value of rs is 0.202, which means that the role of LKMA as a financial facilitator on farmers' income has a very weak correlation level but the relationship is not significant.

The Karya Berseri LKMA program as a management and marketing facilitator has a significant but weak relationship with farmers' income. While the LKMA program as a financial facilitator does not have a significant relationship. This is in accordance with the research by [11] on The role of Islamic micro finance institutions in increasing farmer's revenue which states that the management of agribusiness microfinance institutions has so far been dominated by management and marketing activities, but what is unique is that there is no relationship between financial facilitator programs and farmers' income.

Table 7. F Test (Annova) ANOVA ^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	1937638981220 493.500	4	4844097453051 23.400	20.963	.000 ⁰
Residual	1502004665222 363.000	65	2310776408034 4.047		
Total	3439643645442 856.500	69			

a. Dependent Variable: Revenue.

b. Predictors: (Constant), Saving, amount, assets, frequency.

3.3 The Influence of Various Factors on Income

LKM-A is an institution that guarantees the availability of farming capital. The indicator of farm capital is how much the loan is for farming financing. Here will be seen how the effect of farming financing on farmers' income. The indicators for farming financing are the frequency of borrowing and the amount of financing. As for other variables, namely savings and total assets are other indicators that are measured.

The f test was carried out to determine the significant or not the effect of the independent variables simultaneously on the dependent variable. So that the f test is used to see the effect of the variable frequency of financing (X1), the amount of financing (X2), assets (X3) and savings/dummy (X4) on income (Y). The following f test results can be seen in the Table 7.

From the Table 7 shows that simultaneously there is a significant effect between the frequency of financing (X1), the amount of financing (X2), assets (X3) and savings/dummy (X4) on the income variable (Y) at the 95% confidence level. It can refer that microfinance institutions (LKMA) roled as the institutions of increasing farmers income. It's advantage because farmers don't get large interest dependents for loans. In addition, farmers are also involved in financial management in terms of developing productive farming where farmers will be given the freedom to establish cooperation in the form of partnerships with consumers so that when they get profits. It is the same of research by [12] about Determinants of Farmers Demand for Micro Finance that explain finance amount, financing frequency, asset and saving have the significant effect to Income so the farmers can manage the farm effectively and efficiently. After conducting the f test, a t test will be carried out to see the partial effect of all the independent variables included in the research model. t test results can be seen in Table 8:

Based on the table above, the equation is obtained:

$$Y = -012743,003 - 570300,298X_1 + 1440X_2 + 0.036X_3 + 307407.583X_4.$$

From the multiple linear regression equation, it can be seen that the variables that have a positive coefficient are the amount of financing, the number of assets and savings, but the frequency of financing has a negative coefficient direction. The variables that have a significant effect are the amount of financing and assets, while the frequency of financing and savings has no significant effect on income.

Table 8. Calculation Results of Multiple Linear Regression Test

Model		Unstandardized Coefficients		Stand. Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4012743.003	2024067.998		1,983	.052
	Frequency	-570300.298	556632.327	-.102	-1.025	.309
	Amount	1,440	.690	.214	2,086	.041
	Asset	.036	.005	.642	6,705	.000
	Savings	307407.583	1539388.206	.018	.200	.842

Dependent Variable: Income.

From the table 8, it can be seen that assets and the amount of financing have a significant effect on farmers' income levels. This happens because before the disbursement of loan funds, the LKM-A management first looks at the assets owned by farmers so that later they will adjust to the amount of financing loans that will be given. It can also be seen from the value of the asset regression coefficient and the amount of financing that is positive, which means that the greater the assets and the amount of financing, the higher the income of farmers. It is the same of the research by [13] on farmers' access to capital in increasing income which states that income will increase if the amount of financing provided is large so that the assets of farmers in managing farming will be even greater.

In addition, for the variable frequency of financing and savings, it has no effect on income because in one planting season, farmers are only allowed to borrow once so that capital does not increase and agricultural inputs do not increase. In the absence of additional capital or agricultural inputs such as seeds, fertilizers, drugs and pesticides, it has no effect on production which will determine the income obtained. In addition, it is also supported by the fact that many farmers who borrow capital from LKM-A do not have savings in the LKM-A. In the interviews that have been conducted, in the future the LKMA administrators have plans to increase the frequency of financing to 2 times to increase the participation of LKMA members so that the capital capacity of farmers will increase, followed by an increase in farmer turnover and an increase in farmers' interest in saving in LKMA. According to the research by [14] about Impact of Microfinance on Smallholder Farm Productivity in Tanzania that explain many farmers take the difficult about capital so the conclusion are by giving the easy access capital to farmers by microfinance institutions with the rate of finance are given one more for 1 year.

4 Conclusion

LKMA has a certain mechanism in carrying out savings and loans where for lending does not require collateral. LKMA has five types of savings products, namely Community Savings, Time Savings, Kurban Savings, Education Savings and Pregnant Women Savings. The role of the LKMA as a management facilitator is in the moderate category; The

role of the LKMA as a marketing facilitator is in the high category; The role of the LKMA as a financial facilitator is in the high category. The role of LKMA as a management facilitator and marketing facilitator has a significant relationship to farmers' income, while the role of LKMA as a financial facilitator does not have a significant relationship to farmers' income. Simultaneously there is a significant effect between the frequency of financing, the amount of financing, assets and savings on farmers' income. Partially the amount of financing and assets have a significant effect on farmers' income, while the frequency of financing and savings variables have no significant effect on farmers' income.

References

1. Isbah, U, Rita Y. Iyan.: Analysis of the role of the agricultural sector in the economy and employment opportunities in Riau Province. *Journal of Socio-Economic Development*. Year VII No.19:45–54.(2016).
2. Satriawan, B and H. Oktavianti.: Poverty reduction efforts on farmers using agricultural institutional collective action model. *Journal of Development economics*. Vol.13 No.1 pp.96–112. (2012)
3. Novita, D.: Melon farming financing model in Deli Serdang Regency. *Agrium*. North Sumatra Muhammadiyah University. Vol. 18, No.1. (2013).
4. Widya, T., A.: Sustainability of agribusiness financial institutions in Bogor Regency. *Journal of Agriwidy*. Vol. 1 No. 2. (2020).
5. Nazir, M.: *Research methods*. Bogor: Ghalia Indonesia. (2009).
6. Sugiyono.: *Qualitative quantitative research methods and R&D*. Alfabeta.Bandung. (2010)
7. Setijowati,Retno.: Sustainability of agricultural microfinance institution: Empirical evidence from Yogyakarta, Indonesia. *IOSR Journal of Economics and Finance*. Vol .8, Issue 2. (2017)
8. Sibuea, M, B and Y. Andriansyah P.: PPDM: Empowerment of village economic institutions in Mangrove Forest Areas. *IHSAN Journal of Community Service*. Muhammadiyah University of North Sumatra. Vol. 3, No. 1. (2021).
9. Asnawy, A.: Effectiveness of microfinance institutions: Perspective of beef cattle farmers in Sinjai District, South Sulawesi Province. *IOP Science and Technology Journal*. Vol .788, 012205. (2021).
10. Darwanto.: Sharia microfinance institutions financing model for strengthening agricultural sector. *IOP Science and Technology Journal*. Vol .292, 012206 (2019).
11. Tedjaningsih, T.: The role of Institutions in Mendong Agribusiness Development. *Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis*.4 (2): 211-227. (2018).
12. Gbadebo,Adebosin Walid.: Determinants of farmers demand for micro finance. *Journal of Economics and Sustainable Development*. Vol 4 (5). (2013).
13. Kambali, Ujwala, Niyaz Panakaje.: Access to agriculture finance by farmers and its impact on their income. *International Journal of Case Studies in Business, IT, and Education (IJCSBEE)*. Vol 6 (1). (2022).
14. Girabi, Frank. Agnes Elishadai Godfrey Mwakaje.: Impact of microfinance on smallholder farm productivity in Tanzania. *Asian Economic and Financial Journal*. Vol 3 (227–242). (2013).

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