Measuring the Financial Literacy of Farmers Food Crops in the Poor Area of Madura, Indonesia

Wahyu Santoso, Kiky Asmara and Zainal Abidin

Abstract — An effort to encourage increased food productivity is directly proportional to the limited access of farmers on capital financing resources. The purpose of the research is to describe the financial literacy rate of farmers in Madura. The data analysis method uses a descriptive (qualitative) analysis and a different test (T-Test) with IBM SPSS. 23 Software support. The results of the research obtained that food farmers in Sampang and Bangkalan districts have a relatively moderate financial knowledge with all its limitations. Their understanding is sufficient about the knowledge principle of bank interest calculation, the time value of money, the general rules of the bank, the definition of inflation, risk and profit received. However, financial behavior and attitudes are categorized less. The difference of the principal of Madura food farmers in both research areas namely Sampang Regency and Bangkalan District is located on the component of the Financial Knowledge Index.

Index Terms — Farmers, food crops, poverty, and financial literacy.

I. INTRODUCTION

The last decade of financial literacy issues has been the focus of government policy, banking industry, community as consumers, interested community groups, and other organizations. [3] provide the view that financial literacy has become increasingly complex over the last few years with a number of new financial products, while on the other hand, the minimum financial literacy level becomes a must for the community to use financial products and services can be effective. Financial literacy has been clearly defined among them by [9], [7], refer to financial literacy as the ability to understand financial conditions and financial concepts and to properly change knowledge into behavior. [17] defines financial literacy as the ability to use knowledge and expertise to manage financial resources to achieve welfare.

Financial literacy with access to financial institutions is an inseparable part. The extant findings show still many people around the world financially illiterate [13], [14]. The results of the National Survey of Indonesian financial literacy conducted by the Financial Services Authority in year 2016 shows only 29.66% of Indonesian people who have financial literacy well. Based on the report released by Bank Indonesia in July 2014, Indonesian residents who have good access to informal financial institutions are only 32%, where this number is quite low compared to the total population of Indonesia. Central Bureau of Statistics of the Republic of Indonesia gives an overview of the agricultural sector to be the largest contributor to Indonesia's gross domestic product

after the processing industry, but farmers' households who are the main actors are grouped low-income population. The assumption that has evolved so far is that many farmers do not get access to banking. Whereas [23] reveals poor and low-income people also need access to financial services to live life and manage their business. People who understand literacy easier to understand all things related to the financial services industry, determine the products and services of financial services as needed and become life skill of each individual in living long term [16]. In fact, the financial future really exists in the hands of individual individuals, meaning the ability to make healthy financial choices based on basic knowledge of financial concepts [12], [14].

Likewise, the food farming sector is the backbone of the Madura people's life. Based on the results of the Inter-Census Agricultural Survey (SUTAS) 2018 East Java province mentions the number of households sub-food crops in Bangkalan district as much as 142,402, Sampang Regency as many as 147,838, Pamekasan Regency as much as 138,547 and Sumenep Regency as much as 241,599 [4]. The majority of farmers in Madura food are in rural areas of poverty. The limitation of farming capital is the impetus of food crops farmers in the poverty trap caused by low access to finance. [18], [6] argues that access to finance is crucial because it can be an opportunity for poor farmers to change their production systems and out of poverty.

This research provides the concept of novelty in which exploring the importance of financial institutions for farmers of food crops from the perspective of financial literacy knowledge is still limited. Generally, people working in the informal sector have a low knowledge background as a result of understanding and financial related information is minimal. In line with the research of [20], [15], [5] provides recommendations for expanding the research that links financial knowledge and literacy. The purpose of the research is to describe the financial literacy rate of farmers in Madura. So, research can be a benchmark to understand the financial behaviour of farmers in food crops in understanding financial literacy comprehensively.

II. RESEARCH METHODS

A. Sampling

The research area has been determined in Bangkalan and Sampang Regency, Madura as the region with the highest 5 ranked regions left in Indonesia. Based on data from the [4], the two areas also have the most agricultural households in

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Indonesia compared to other areas in Madura Island. Samples of research determined by purposive sampling methods consider several aspects among others a) farmers have the primary income of agriculture, b) has productive agricultural land with a minimum age of one year and c) participated and active in the farmer group. Amount of respondent samples was 60 respondents with each territory as many as 30 farmers. [21] declare that the sample size of the study in general is as much as 30 to 500 and the size is judged to have been quite representative of the population.

B. Data Analysis

Methods of data analysis use a descriptive analysis (qualitative) to describe the level of financial literacy of food farmers in Madura. In addition, a different test (T-Test) is used to determine whether there is a significant difference between components of financial literacy among food farmers in Sampang Regency and Bangkalan Regency, Madura. The research data is processed using the IBM SPSS. 23 program.

Measurement of the Financial Literacy Index used a theoretical approach to [2] with a combination of three main indicator components for measuring the financial Literacy Index, namely:

1) Financial Knowledge Index is measured parameters related to the knowledge principle of bank interest calculation, time value of money, definition of inflation, bank general rules, diversification, risk and profit.

2) Financial Behavior Index is measured parameters related questions in deciding on the purchase of goods, the accuracy of paying bills, care in personal finance affairs, long-term financial and business objectives to achieve it, ownership of the household budget, saving or investment activity in the last year, decision of the financial product selection.

3) Financial Attitude Index is measured paramaters related to the bribery in spending or saving money in long term and short term financial planning.

III. RESULT AND DISCUSSION

A. Profile of Farmer Food Crops

The condition of food crops farming in Madura today still need serious attention marked by the high level of poverty, so it needs to improve their welfare by means of agricultural optimization, revitalizing and diversifying agriculture and facilitating capital for farmers. Considering this, it is necessary to display a farming profile that can be a cornerstone of the next policy and strategy. The farmer profile referred to in this study is a characteristic of farmers based on several variables relevant to the level of financial literacy.

Farmer's age is the farmer's life at the time of research expressed in years. Age relates to the physical strength, spirit, experience, and level of adoption. Based on the data obtained from 60 people samples of farmers, the age of farmers ranged from 17 years to 64 years. The number of farmers aged between 20 to 30 years is 15 people, aged 31 years to 40 years and 15, while farmers who are over 40 years old as many as 30 people (Table 1). [20] conducted research on 73

smallholders in South Africa while the age of closely related farmers access to financial institutions.

The climate in Madura is characterized by two seasons, the western season or the rainy season during October to April, and in the eastern or dry season. Soil composition and precipitation are not the same on the high slopes are precisely the most, while on the low slopes are not a shortage of Madura has a fertile soil. For Madurese farmers in general they have the proficiency in reading seasons and weather according to their region characteristics. Only in the alluvial land and the clay mixed with lime on the highlands that there is enough rainfall alone and most of the land is processed from the moor. This type of cultivated plant is adapted to the natural environment of Madura which tends to have a long enough dry season. Potential farming is done is confined to rice crops, corn, and some types of cassava. Table 1. shows that from 60 people samples of farmers, the number of farmers who planted paddy as many as 22 people, planted corn as many as 28 people, and farmers who planted cassava for 10 people.

TABLE 1: FARMER CHARACTERISTICS

No.	Variable	Measurement	Amount
1	Age	20-30 Year	15
		31-40 Year	15
		> 40 Year	30
2	Education	Primary School	42
		Junior High School	11
		Senior High School	5
		Bachelor	2
3	Types of Plants Cultivated	Paddy	22
		Corn	28
		Cassava	10
		Farming Capital	12
4	Reasons for Saving	Anticipate Unexpected Problems	16
		Repay Loans	10
		Purchase of Inferior Goods	15
		Child / Grandchild Life Savings	7
		Distance of the farmer's house to the bank	
5		< 1 Km	2
		1-3 Km	22
		3-5 Km	30
		> 5 Km	6

A farmer in the countryside earns profit or income a month or three months at the time of the harvest. Although the harvest is abundant and get a lot of profit, it turns out the farmers are quite difficult to set aside his money for saving. Rice farmers in Madura can harvest two times a year. Big and small profit in planting rice is when the season is not friendly, pests rampant, as well as the unavailability of pesticide. Not least the farmers keep the money in the plastic, then put under the pillow. This is ineffective because the money will not be consciously reduced because you use it for other purposes. Unlike the modern farmers who save their harvest money on the Bank or use the harvest profit by buying the rice field again to be planted more rice in a long period of time. There are several reasons for food farmers in Madura to save by considering the agricultural capital as many as 12 respondents, the anticipated unexpected problem is 15

respondents, used to buy valuables as many as 15 respondents and 7 respondents answered him for the future of his child/grandson (Table 1.). [5] found that extension contact, and saving habits had a positive influence on farmer access to the formal credit market.

The distance in this study is operational is defined distance from the farmer house to the financial institutions both government banks and private banks, village unit cooperatives and agricultural cooperatives. The respondents house distance close to financial institutions makes it easy for farmers to reach financial access, making it easier for farmers to use financing for agricultural capital. Based on the research data from 60 people samples of farmers (Table 1.), there are several categories of farmer's house distance to the bank, among others are: less than 1 km, 1-3 km, 3-5 km, as well as more than 5 km. with the largest amount of farmer distance from home to bank as far as 3-5 km. of 30 people, the distance is 1-3 km, and the remaining less than 1 km as many as 2 people. The findings of [19] states the barriers to the financial access of farmers are the high cost of rural loan transactions due to small credit size, high transaction frequency, large geographical spread of the borrower's heterogeneity as well as the lack of network banking amounts in rural areas. [1] said that credit access can improve technical efficiency and allocative efficiency in the rice farming sector. This affects the level of technical efficiency of farmers so as to implement more capital intensive production methods, namely buying more machine inputs and markets. In addition, credit can also improve allocative efficiency by letting farmers replace nonmarket inputs with market inputs and increase the ability of farmers to bear risk.

B. Measuring the Financial Literacy Index of Farmers Food Crops in Madura

Financial literacy is believed to improve access to financial institutions such as saving, buying insurance premiums, investing, accessing credit, and more. [9] stated that financial literacy is the ability to understand financial conditions as well as financial concepts and to alter the proper understanding of behavior. The phenomenon of financial literacy needs in farmers arises when the efforts to encourage increased food productivity are directly proportional to the limited access of farmers to capital financing resources. Capital limitations also make the quantity and quality of the results obtained by farmers is not maximal. The nature of cultivation is more dependent on nature, the crop failure experienced by farmers is certainly a serious problem. Food farmers are hard to get out of the poverty trap, let alone have savings to cover their entrepreneurial losses and how farmers earn capital to restart their efforts, ranging from the purchase of seedlings, fertilizers, pesticides, and other agricultural production means, and therefore farmers will be prosecuted to get capital from other parties.

Based on Table 2. it can be seen that in Madura Island in both Sampang and Bangkalan districts the average financial knowledge index has the highest value of 23.37 for Sampang district and 20.37 for Bangkalan district which means that there are many food farmers in the two The regency is able to meet the measured index related to the knowledge of the principle of calculating bank interest, the time value of

money, the general rules of the bank, the definition of inflation, risk and profit received. While the financial literacy component that has the lowest average index value is the financial attitude for both Sampang and Bangkalan districts, which is 19.20 for Sampang district and 18.33 for Bangkalan district.

TABLE 2: FINANCIAL LITERACY COMPONENTS OF FOOD CROP FARMERS GROUP STATISTICS

	Region	N	Mean	Std. Deviation	Std. Error Mean
Financial Knowledge	"Sampang"	30	23,37	2,399	0,438
	"Bangkalan"	30	20,37	2,173	0,397
Financial Behaviour	"Sampang"	30	20,50	2,047	0,374
	"Bangkalan"	30	19,53	2,389	0,436
Financial Attitude	"Sampang"	30	19,20	2,538	0,463
	"Bangkalan"	30	18,33	2,412	0,440

Financial literacy as an effort to increase public sensitivity to the financial services sector, which begins with knowing, then believes, to be skilled to actively engage, in other words reach a society that has a good literary level (well literate) in the financial services sector. The definition of financial literacy has been clearly expressed among them [9], [7], explain financial literacy as the ability to understand financial conditions and financial concepts and to properly change knowledge into behavior. Financial literacy also means how one governs their finances in insurance, investing, savings and budgeting (budgeting) [8]. Financial literacy can be improved through financial education. [11] stated that efforts to improve financial literacy are an important way to raise savings and credit levels for poor and vulnerable consumers especially for those working in the informal sector.

Constraints related to access to financing agricultural sector can be seen from two sides, namely the financial institution side and the customer side. Constraints from financial institutions are the absence of special treatment from the financial institutions for the agricultural sector. To date, policies related to the financing of agricultural sectors are always integrated with other sectors so that the agriculture sector is not competitive. The factors believed to cause difficult access to capital, in addition to the factors mentioned earlier, are that the financial institutions as well as the products and services are not well known by the public. The community has no understanding of adequate financial literacy, especially those who have low education and are in poor areas.

Based on Table 3. it can be seen that the results of the t test show that there are significant differences between food farmers in Sampang district and Bangkalan district for financial knowledge index. This can be seen from the magnitude of the t value of 5,076 with a probability (significance) of 0,000 or it can be interpreted that both the average (financial) knowledge of food farmers in Sampang and Bangkalan districts is really different in the sense of food farmers in Sampang district have higher financial knowledge than food farmers in Bangkalan district. As for the financial behavior and financial attitudes of food farmers in both Sampang and Bangkalan districts, there is no difference by

looking at the probability (significance) of the two variables, namely 0.98 and 0.180. Bangkalan and Sampang Regencies are areas that reflect the social characteristics of the Madurese community that cannot be equated or are unique to other ethnic communities in Indonesia. The stereotypical description of Madurese people is easily offended, easily suspicious of others, temperamental or irritable. Madura's

expressiveness, spontaneity, and openness are always manifested when they must respond to everything they face, especially to the treatment of others. For example, if the treatment makes the heart happy, then frankly without further ado, they express their gratitude immediately. But on the contrary, they spontaneously react violently if the treatment of him is considered unfair and hurt his feelings.

TABLE 3: T-TEST FOR FINANCIAL LITERACY OF FOOD CROP FARMERS
INDEPENDENT SAMPLES TEST

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Financial Knowledge	Equal variances assumed	1,101	0,298	5,076	58	0,000	3,000	0,591	1,817	4,183
	Equal variances not assumed			5,076	57,440	0,000	3,000	0,591	1,817	4,183
Financial Behaviour	Equal variances assumed	1,224	0,273	1,683	58	0,098	0,967	0,574	-0,183	2,116
	Equal variances not assumed			1,683	56,670	0,098	0,967	0,574	-0,184	2,117
Financial Attitude	Equal variances assumed	0,244	0,623	1,356	58	0,180	0,867	0,639	-0,413	2,146
	Equal variances not assumed			1,356	57,849	0,180	0,867	0,639	-0,413	2,146

IV. CONCLUSION

The classic agricultural problematics in developing countries especially poor areas are the low level of education of the farmers, and old age such as the age of the 30s and above. It is a reality that happens to farmers in poor areas of Madura, Indonesia. Another research finding is that the large distance from the farmer's house to the bank by 3-5 km is a strong reason not to save his money to financial institutions. Nevertheless, for farmers who are buried in the modern era and want to save their harvest money on the Bank considering the reason for savings for agricultural capital, anticipating urgent and unexpected events as well as buying valuables.

The majority of food farmers in Sampang and Bangkalan districts have a relatively moderate financial knowledge with all its limitations. Their understanding is sufficient about the knowledge principle of bank interest calculation, the time value of money, the general rules of the bank, the definition of inflation, risk and profit received. It's just less financial behaviour and attitudes. They lack understanding that managing finances is very important, but awareness to deposit funds in banks is also very less in line with feelings of anxiety because the wealth is managed by other people or institutions. The principal difference between food farmers in Sampang district and Bangkalan District on one of the financial literacy components, the financial knowledge Index. As for financial behaviour and the financial attitude between food farmers both have an equal understanding.

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