ECONOMIC AND SOCIAL FACTORS RELATING TO POTATO FARMERS' DECISIONS IN OBTAINING FINANCE FROM MIDDLEMEN IN KERTASARI SUB-DISTRICT, BANDUNG DISTRICT

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ABSTRACT

The availability of financial institutions remains low in Kertasari Sub-District, causing farmers to be unable to optimally utilize financial institutions to borrow capital for farming activity. As funding provider, informal institutions are considered to be relatively flexible and easy to access because of uncomplicated administrative procedures compared to formal financial institutions which unfortunately are often seen as much more convenient to use for the farmers. The purpose of this study was to analyze the factors that relate to potato farmers' decisions in obtaining finance from middlemen in Kertasari Sub-District, Bandung District. The study design is quantitative research using survey method. The data was analyzed using logistic regression. The results showed that there were several factors that related to farmers' decisions in obtaining finance from middlemen, including farming expenses and farm income.

Keyword: Factors, Informal institutions, Middlemen, Potatoes.

INTRODUCTION

Financing is one aspect that cannot be separated from farming activities, besides financing is also needed in various aspects of life such as trade, education, health, as well as in daily life. The limitations of farmers in the aspects of capital, market access and knowledge seem to be obstacles for farmers to be able to develop their business (Mukti et al., 2018).

The sources of finance which can be accessed by farmers consist of two groups based on the legality of the government, namely formal financial institutions and informal financial institutions (Hamka & Danarti, 2012). Financing consists of several forms, according to the sources of financing that are accessed, such as commercial credit, subsidized credit, flexible payments, and assistance in the form of agricultural infrastructure such as seeds, fertilizers, and agricultural equipment (Wulandari et al., 2017).

According to Rahayu (2015), informal institutions as providers of funds are considered relatively flexible and easy to access. The marketing networks exist in
rural areas are mostly held by middlemen, small low-income farmers have no choice to finance their production except by borrowing capital from the middlemen (Arsyad et al., 2018).

Middlemen has an extensive social network and has a relationship with farmers and buyers and is able to occupy a strategic position because it connects farmers and buyers, so that it can provide benefits for many parties (Azizah, 2018). The existence of middlemen often helps farmers to sell their crops (Imaniar et al., 2020). The behavior of middlemen is important to determine the level of influence of the general view on agriculture as a whole (Kinnucan, 1997).

Transaction to middlemen provide more significant benefits to farmers, one of which is farmers do not need to pay additional transportation costs to deliver their products (Aini et al., 2015). Also, because these middlemen are close to the customer and present in the market, they can provide this information at no additional cost (Suhaimee et al., 2014). Good information has various effects depending on the market price realization (Mitra et al., 2018).

Middlemen usually consists of several different agents, one of which is a person with large capital (Astuti, 2019). The relationship between the two parties is based on a 'debt and credit' bond, placing it as a creditor to determine the price paid for the payment of debt owed by the farmer or processor as a debtor. Economically, this results in the debtor experiencing losses, which in turn also creates the debtor's dependence on the creditor (Ambarini et al., 2018).

One of the potato production centers in Indonesia is West Java Province. According to data of West Java Province Food Crops Agriculture Office (2019) Bandung District is one of the centers for potato production in West Java. Bandung District is able to produce potatoes with productivity reaching 20.93 tons per ha.

According to Soenarko (2013), cooperatives are the most suitable legal entities for rural communities, where most of the people work in the agricultural sector with the inherent characteristics of community cooperation. In line with the statement, according to Syahza (2003), that cooperatives are business entities in rural areas and are full implementers of the agribusiness subsystem.

Based on data of Kertasari Sub-District (2017) cooperative located in Kertasari Sub-District only amounted to five units. The lack of the number of cooperatives in Kertasari Sub-District became one of the limitations for farmers in a variety of loans. There are only two financial institutions in Kertasari Sub-District, and only Cibeureum Village has financial institutions. The availability of two financial institutions leads to farmers less able to use financial institutions optimally to borrow capital.

The main obstacle faced by farmers in developing their businesses is the domination of entrenched middlemen (Paillin et al., 2013). A small part of the price paid by buyers goes to farmers while a large part is borne by the middlemen (Karthikeyan, 2016). Governments are usually urged to eliminate or minimize the role of intermediaries from the marketing chain for the sake of improving the welfare of consumers and producers (Badar, 2008).

Based on Mahmudah & Harianto (2014), the attachment of farmers in using loans or assistance for agricultural production needs of farmers with narrow land sourced from middlemen. This bondage occurs because of a loan given by the middlemen (Imron, 2003). The strength and role of the middlemen regarding the cost of transportation to the income of farmers in developing the economy and the surrounding economic industry (Mérel et al., 2009).

This relationship between farmers occurs because the middleman is in a position to provide goods and services that are needed by farmers and their families so that they can survive. (Fuad et al., 2015). This linkage is caused by the existence of social relationships that are solidarity and
symbiotic so that farmers cannot get out of these ties. (Megasari, 2019). And middleman is very helpful in fulfilling their life’s urgent needs (Arimbawa, 2013).

Farmers do not have direct access to consumers. Farmers’ ability is also limited in terms of price negotiations (Wahyuni, 2017). Farmers also do not only have limited direct access to the market, they also do not know the price of their potatoes that are sold on the market (Mitra et al., 2013). Even though middlemen are considered negative for some people, they can play a key role such as collecting, valuing, storing, distributing and selling in the vegetable marketing channel (Sandika, 2011). The role of the middlemen in the formation of these channels has never been fully explained, especially in developing countries (Latif & Sasaki, 1999). In connection with this explanation, the purpose of this study is to determine the factors on which the decisions of farmers in making capital loans to middlemen in Kertasari Sub-District are based.

**RESEARCH METHODS**

This research was conducted in Cibeureum and Cikembang Villages, Kertasari Sub-District, Bandung District from August to September 2020. The determination of the research location was based on the consideration that Kertasari Sub-District is the highest productivity in Bandung District in 2018, and the selection of Cibeureum and Cikembang Villages have the largest potato production in Kertasari Sub-District. The research design used is quantitative research with survey methods. Data collection techniques in this study used questionnaires, interviews and literature studies. The data used are primary data and secondary data. Primary data in this study were obtained directly by researchers through filling out questionnaires to 50 respondents from both of Cibeureum and Cikembang villages as well as direct interviews by informants. Meanwhile, secondary data were obtained from the Central Bureau of Statistics, Ministry of Agriculture, Kertasari Sub-District and other information media related to the research topic.

According to Sugiyono (2017) research variables are attributes, values or properties of objects, individuals or activities that have many specific variations between one another that have been determined by researchers to be studied and searched for information and conclusions drawn. The variables in this study are as follows:

1. Characteristics of respondents, including the level of education, as measured by the last education taken by the farmer
2. Farming characteristics, including potato crop area, total potato crop production, farm income, and farm expenses.
3. Access to finance, including financing institutions accessed by farmers in making farm capital loans.

The level of education, land area of potato crops, total potato crop production, farm income and farm expenditure were analyzed using logistic regression which included the overall model fit test, partial test, model determination, and model fit using SPSS software.

To analyze the factors that relate to farmers’ decisions in lending capital to middlemen, logistic regression analysis was used applying the equation as below:

\[
\text{Logit}(Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5
\]

where:

- \( Y \) = Farmers category (when \( Y \) is close to 1, farmers make loans to middlemen; when \( Y \) is close to 0, farmers do not make loans to middlemen).
- \( \beta_0 \) = Constant
- \( \beta \) = Regression coefficient
- \( X_1 \) = Farming income (million IDR)
- \( X_2 \) = Farming expenditure (million IDR)
- \( X_3 \) = potato production (tons)
- \( X_4 \) = Potato land area (ha)
- \( X_5 \) = Level of education
RESULTS AND DISCUSSION

Characteristics of Respondents

Characteristics of respondents are personal data owned by farmers or research subjects that can distinguish them from other farmers.

The level of education is the level or stage of education that has been taken by a person. Based on the data in Table 1, the majority of farmers' education level in Kertasari Sub-District is primary school as much as 40%. The low level of non-formal education is due to the lack of intensity of extension followed by farmers and the use of methods that are less attractive to farmers (Herawati et al., 2018). The higher a person's education, the more rational his/her way of thinking, attitudes and behavior will be in accepting or understanding the technological innovations that are obtained (Sunandar et al., 2020).

Characteristics of Farming

Characteristics of farming are data about farming owned by farmers or research subjects that can distinguish them from other farmers.

Table 1. Characteristics of Respondents.

| Variable                  | N  | Percentage |
|---------------------------|----|------------|
| Level of education        |    |            |
| Non-formal school         | -  | -          |
| Primary school/equivalent | 20 | 40%        |
| Junior high school /equivalent | 13 | 26%        |
| Senior high school /equivalent | 16 | 32%        |
| College                   | 1  | 2%         |

Source: Processed Primary Data, 2020.

Table 2. Characteristics of Farming.

| Variable                  | N  | Average     |
|---------------------------|----|-------------|
| Potato Plantation Area (ha) | 50 | 0.58        |
| Total Potato Production (ton) | 50 | 11.3        |
| Farm Income (Rp)           | 50 | 5,446,053   |
| Farming Expenditures (Rp)  | 50 | 7,370,000   |

Source: Processed Primary Data, 2020.

Agricultural land is a supporting factor for people's needs, especially in rural and sub-urban communities (Dewi & Rudiarto, 2013). Based on the data in Table 2, on average, farmer grew potatoes covering an area of 0.58 ha in one planting season. Agricultural land is the most important thing in farming, where the wider the land, the greater the amount of production the farmer can produce (Ambarita & Kartika, 2015).

Production activities are changes in inputs to outputs. The larger the planted area, of course, the greater the opportunity to produce greater production (Habib, 2013). Based on the data in Table 2, on average, the farmer produced 11.3 potato plants in one planting season. Farmers' land that is used in the production process can be their own land, rent or storage, each of which has provisions in accordance with its ownership function (Damayanti, 2013).

Farming income is the result of a reduction between revenue and costs incurred. The level of income received by farmers depends on various factors that affect land productivity (Mardianto et al., 2016). Based on the data in Table 2, on average, the farmer earned a farm income of IDR 5,446,053 within one month. To be able to increase farm income, various information is needed related to the factors that can affect farm income and productivity itself (Tahir, 2017).
Total expenditure is the value of all inputs that are used up and expended in the production process. The greater the income and the higher the level of technology used, the greater the expenditure (Lubis et al., 2007). Based on the data in Table 2, on average, the farmer spent a farming cost of IDR 7,370,000 in one month. Long land distances can affect farm expenses and also usually affect the cost of transportation (Ruauw et al., 2011).

**Access to Finance.**

Finance that can be accessed by farmers consists of two groups, namely formal and informal financial institutions.

The sources of financing closest to farmers, for example, are banks, MFIs, farmers’ groups, traders/buyers, and agricultural facility kiosks, as well as several other sources of financing such as relatives, land owners, and neighbors (Wulandari et al., 2017). Based on the data in Table 3, the majority of farmers in Kertasari Sub-District accessed financing to banks and middlemen with the same number of 18 farmers (36%). This indicates that in choosing the source of financing, many farmers in Kertasari Sub-District still accessed financing through the middlemen.

**Logistic Regression Analysis**

In this study, the factors that are expected to have a relation to farmers’ decisions in getting finance from middlemen are farm income (million IDR), farm expenses (million IDR), potato production (tons), potato land area (ha), and education level.

| Table 3. Access to Finance                      | N  | 100% |
|-----------------------------------------------|----|------|
| Bank                                          | 12 | 24%  |
| Middlemen                                     | 3  | 6%   |
| Bank and Middlemen                            | 2  | 4%   |
| Siblings/Neighbours                           | 3  | 6%   |
| Agricultural Kiosk                            | 3  | 6%   |
| Microfinance Institutions (MFIs)              | 2  | 4%   |
| Middlemen and others (JICA)                   | 1  | 2%   |
| Bank and Agricultural Kiosk                   | 1  | 2%   |
| Middlemen and Agricultural Kiosk              | 8  | 16%  |
| Middlemen and Siblings / Neighbors            | 1  | 2%   |
| Bank and Middlemen and Agricultural Kiosk     | 2  | 4%   |
| Bank and Middlemen and Agricultural Kiosk and Siblings/Neighbors | 1 | 2%   |
| Not getting in finance                        | 11 | 22%  |

Source: Processed Primary Data, 2020.

| Table 4. The Results of Logistic Regression Analysis of Potato Farmer Decision Making in Getting Finance from Middlemen. |
|---------------------------------------------------------------|-------|-------|-------|-------|-------|-------|
|                                                               | B     | S.E.  | Wald  | Df   | Sig.  | Exp(B) |
| Farming Expenditures                                         | .242  | .110  | 4.856 | 1    | .028* | 1.274  |
| Farm Income                                                  | -.288 | .143  | 4.038 | 1    | .044* | .750   |
| Total Potato Production                                      | -.017 | .077  | .051  | 1    | .822  | .983   |
| Potato Land Area                                             | -.656 | 1.278 | .263  | 1    | .608  | .519   |
| Level of Education                                           | .108  | .423  | .065  | 1    | .799  | 1.114  |
| Constant                                                     | -.060 | .891  | .005  | 1    | .946  | .942   |

Note: *) Significant at the level 5%
Source: Processed Primary Data, 2020
Based on Table 4, it is found that the variables that relate to the farmer's decision to get loan from middlemen are farm expenditures and farm income. However, the total potato production, the area of potato land, and the level of education did not relate to the farmers' decision to get loans from the middlemen.

Factors that relate to potato farmers’ decision in obtaining finance from middlemen

1. Farming Expenditures
   The results of the analysis show that the farm expenditure has a significance value of 0.028 that is smaller than 0.05. This means that farming expenditure has a significant and positive relation in the 5% level to the opportunities for farmers to get loans from middlemen in Kertasari Sub-District. This indicates that the farmers with a higher farming expenditure have higher chance to get loans from middlemen.

   There is a relationship between farm expenditure and farmers' decisions in getting finance from middlemen. This fact shows that farming expenditure is related to the farmer's decision to make a capital loan to the middlemen where the farming expenditure is getting bigger, the capital owned by the farmer will also be high, and as a result the farmer needs additional capital for the sustainability of his farming. The same thing was expressed by researchers Mahmudah & Harianto (2014), that there are several factors that relate to farmers in making loans from middlemen, including requiring additional income outside of their own land.

2. Farm Income
   The results of the analysis show that the farm income has a significance value of 0.044 that is smaller than 0.05. This means that farm income has a significant and negative relation in the 5% level to the opportunities for farmers to get loans from middlemen in Kertasari Sub-District. The coefficient of farm income is negative indicating the farmers with a higher farm income have lower consideration to apply loans from middlemen. This fact shows that farm income is related to the farmer's decision to obtain loan to the middlemen where the farm income is small, the income received by the farmer is also low, and as a result the farmer is unable to cover the costs of sustaining his farming. The same thing was expressed by researchers Mahmudah & Harianto (2014), there are several factors that influence farmers in making loans to middlemen, including requiring additional income outside of their own land.

CONCLUSION AND SUGGESTION

Lack of availability of financial institutions in the Kertasari Sub-District, causing farmers less able to utilize optimally the financial institution to borrow capital the most accessible way. Middlemen can be alternative sources for farmers in Kertasari Sub-District to obtain capital loans for farming.

The factors relate to farmers' decisions in obtaining finance from middlemen are farming expenditures and farm income. The government has made policies facilitate farming capital for farmers which is known as KUR (Kredit Usaha Rakyat) that is to be increased by 3% to 253 billion rupiahs from 220 billion rupiahs as of 2021 for 6 months. It is recommended that farmers be able to take advantage of the access to finance has been provided by the government to increase farm production.

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