

Social Relations Between Markets and Farmers: A Sustainable Development Model for Coffee Commodities

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ABSTRACT

The socio-economic characteristics are used in making judgments about the effects of different effects on economic welfare policies. This research focuses on the issue of coffee farming as one of the objectives of the study to create empowered and prosperous farming communities. Thus, the purpose of this study is to describe the socioeconomic characteristics of coffee farmers who have successfully innovated in Jember Regency, to describe and explain the political factors of local government policies in forming social relations between the government, markets and farmers, to describe how the character of the coffee commodity market according to farmers. Market players. This type of research is a mixed method research with quantitative and qualitative approaches. The survey was conducted on coffee farmers in several areas in Jember. A binary logistic model is used to show how these characteristics influence farmers' choice of marketing channels through which to distribute their produce. The results show that increasing the age and income of coffee farmers, the tendency to choose the middleman sales channel increases.

Keywords: *Socio-economic characteristics, Marketing Channels, Binary Logistics Model, Middlemen, Cooperatives.*

1. INTRODUCTION

Coffee is a commodity produced from plantations in mountainous areas and is also the most popular crop consumed by people in the world. Indonesia with a geographical contour has a variety of coffee that contributes to the national economy. Indonesia's coffee economic potential and market potential are a source of foreign exchange for the country, regional development through the agribusiness and agroindustry sectors. In its development, coffee has changed the face of the forest, although not all researchers agree, but in practice it has supported environmental conservation [1].

According to the International Coffee Organization Indonesia is the fourth largest coffee producing country in the world after Brazil, Vietnam and Colombia. Coffee production in Indonesia for 3

(three) years, namely in 2016/2017 of 692,460 tons, in 2017/2018 of 651,120 tons and in 2018/2019, amounting to 565,080 tons. Unfortunately, these data show a decline in coffee production in Indonesia. The Director General of Agroindustry at the Ministry of Industry seeks to improve the performance of the national industry, especially in the coffee processing sector. This is done to face the era of globalization of trade and free markets. One of the efforts to increase coffee production in Indonesia is to regulate export and import activities. The following are countries with coffee export rates.

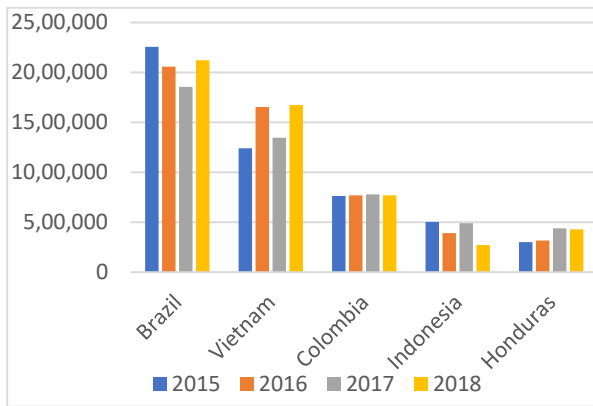


Figure 1. The World's Largest Coffee Export (In Tons)

Based on Figure 1, five coffee producing countries, it can be seen that there has been an increase and decrease in coffee export activities abroad, Indonesia is no exception. The main problem faced by the coffee industry in Indonesia is the low quality which has an impact on the competitiveness of Indonesian coffee in the international market [2]. However, the low quality of coffee cannot be fully charged to coffee farmers alone. The marketing system and coffee supply chain can affect national and international trade activities, considering that coffee in Indonesia is grown by coffee farmers in remote areas or in the highlands. This causes a fairly long marketing chain or distribution channel. The complexity of the coffee supply chain for domestic consumers in Indonesia from the upstream to downstream sectors has several variations in the following pattern:

1. Farmer → collectors → local trading → companies → roasters → consumers
2. Farmer → traders → sub-district collectors → compote trading companies → roasters → consumers
3. Farmer → collectors → local trading → companies → local markets/retailers/coffeshops → consumers

Meanwhile, the pattern of the supply chain of coffee marketed abroad is as follows: Farmers → collectors → sub-district collectors → exporters → importers → roasters → consumers.

The pattern of marketing and governance of coffee commodities is a challenge in itself. The various patterns depicted indicate the multi-actor involved in the distribution flow of Kopi. It also means that there is a tiered pricing system, but farmers are often the party that the trading system is conditioned to make minimal profits.

The wealth of coffee commodities [3] records that there are 17 Indonesian coffees that have been registered as Geographical Indications (GI). You can imagine the area of agricultural land in Indonesia that is used to grow coffee and the number of actors who can or have benefited so far. This potential is a special note in this study, where economically it can create social welfare for people who depend on coffee.

From 17 variants of IG Kopi, East Java has Arabica Java Ijen Raung which is registered and can continue to be developed as a leading commodity. Arabica Java Ijen Raung can be found in four districts, namely; Jember, Bondowoso, Situbondo and Banyuwangi. Of the four districts, Jember is specifically intended to look at the local government policy settings in developing coffee commodities.

Jember displays a distinctly different condition. In 2016 reports from regional companies engaged in coffee commodities stated that losses were due to administrative malls. In addition, the district government seems to limit itself not to be involved in increasing the coffee commodity. Although the agriculture office has mapped and developed a strategy for increasing coffee commodities, especially those managed by smallholder farmers, the regent as a policy maker has a different vision.

What happened in Jember was a form of regional policy formulation as a political instrument which in practice actually displayed the will of the regional head to privatize the direction of the bureaucracy. The consequences of public policy practices in both areas can be seen from how coffee farmers are constructed to become independent with community networks.

Community and social networks are fundamental concerns for projecting the direction of coffee development in encouraging regional development. Jember could be better because of the social groups outside the farmers who pay attention to coffee [4; 5]. Including the middle-class market which is sociologically formed due to the existence of universities and a dynamic economic sector. Based on the difficulties faced by the coffee industry, this research focuses on coffee farming in the Jember area, which is the area for Robusta coffee farming.

The Government of Jember with the potential for coffee commodities should have a scenario in bringing together farmers and the market. This research assumes to get a scenario that can bring together the three sectors starting with understanding the socio-economic character of farmers. [6] argue

that socio-economic characteristics have proven to be effective in predicting farmers' marketing choices, so that they can improve the living standards of small farmers. By having an understanding of the habits of farmers, local governments can understand and intervene in the coffee market which has proven to be very open and dynamic.

Socio-economic conditions and social character of coffee farmers are motivated by different education, the majority of them have minimal knowledge of coffee. Departing from the socio-economic conditions that occurred in the two research areas, this research is intended to elaborate on the difficulties of farmers, especially on how to deal with the market. On the other hand, it is also addressed to place the government as a part that can design sustainable development in its territory without leaving coffee farmers

The centrality of local governments to shape, encourage the development or even "protect" their regional commodities is an urgent need. The dynamics in the coffee market are due to a pattern of demand that is highly dependent on business actors in shaping market tastes [7]. In this case, the government's role can at least protect farmers from repressive and predatory market expansion for farmers' lives.

The relationship with the market is unequal because farmers do not have bargaining power in deciding prices [8]. The imbalance between supply and demand, both in terms of quantity and quality standards, is the reason used to suppress prices at the farmer level [9]. To secure the price of coffee farmers create a cultural economic network that plays in the Niche Market [8]. In the sense of a niche market or what is translated as a market niche, it presupposes that there are market players who are specifically able to commodify the products they sell [10]. In practice, consumers will be limited to certain communities.

Limitations of consumers in the market niche become the second issue in this study. The socio-economic character of farmers is not fully articulated by farmers in a singular form. For example, in observations coffee farmers in Jember have been able to create their own brand and meet local entrepreneurs. In the economic context, actors who enter and play in a niche market are those who have confidence in their products so that they are able to multiply profits [11]. Meanwhile, in the sociological dimension, commodities in a niche market are formed to create cultural values for commodities. Therefore, socio-economically, commodities and actors in market niches are counter culture of mass culture and

an alternative for increasing added value for coffee farmers [12].

Understanding socio-economic characteristics becomes very important to make judgments about the different influences in economic welfare policies. Second, the characteristics of farmers are an entry point for designing a regional policy framework for coffee development. Third, the mapping of the market character, especially the issue of the coffee commodity market niche, specifically becomes a point for projecting alternative markets for coffee marketing. In this regard, this research focuses on the issue of coffee farming as one of the study targets to create an empowered and prosperous farming community. The resolution of coffee farmers' problems cannot be seen from one side only, but must be integrated from upstream to downstream. Thus, the purpose of this study is to describe the socio-economic characteristics of coffee farmers who have succeeded in innovating in Jember Regency, to describe and explain the political factors of local government policies in forming social relations between the government, markets and farmers, and to describe the character of the coffee commodity market according to market participants. . This comprehensive, complex and integrated understanding is expected to provide a design for a sustainable development model based on coffee commodities by synergizing the interests of the government, markets and farmers.

2. METHODOLOGY

This type of research is mixed method research. Where qualitative research is used to elaborate the cultural conditions of coffee farmers and how farmers' social networks are based on the loyalty of farmers and coffee connoisseurs. Informants in this qualitative study were selected purposively by interviewing the government, market players and farmers in the two research areas. Through in-depth interviews with informants, researchers categorize issues which are then discussed in depth through FGDs. In addition, qualitative research is intended to build a comprehensive analytical framework and confirm quantitative findings.

2.1 Quantitative Approach

Descriptive quantitative research is research that is used to describe a situation or condition that aims to create a description, description, and factual about the existing problems based on the data. Data collection techniques used are questionnaires,

observations and interviews. Quantitative research is conducted by distributing questionnaires to farmers who are successful in marketing and innovating their products, as well as farmers who directly sell to middlemen regarding social and economic characteristics. This study will see whether there are differences in the social and economic characteristics of the two farmers with the research location in Jember. The number of respondents is between 50-100 people.

The method to see the socio-economic characteristics factors used by farmers as the basis for choosing coffee marketing channels in the former Besuki Residency is: bivariate logistic regression, which is used to examine various socio-economic factors of farmers in determining their choice to sell coffee through formal organizations or through intermediaries. Membership in coffee marketing organizations is a binary decision (binary decision) and the logistic model is used to determine the probability ratio which is interpreted as a multiplier of the probability of wanting to become a member or not in the cooperative. If the value is greater than 1, then it indicates that as the predictor increases, the probability of cooperative membership increases and vice versa [13], which is outlined in the following Binary logistic regression model:

$$P(Y) = \frac{1}{1 + e^{-(b_0 + b_1X_1 + b_2X_2 + \dots + b_nX_n + \mu)}}$$

Based on the above equation, it can be explained that: for the purpose of the model, Y is the marketing channel chosen by the farmer (if Y = 1, then the farmer chooses the organization; otherwise, if Y = 0, the farmer chooses the intermediary); P(Y) is the probability of participation in the marketing channel, b₀ is the intercept, b_i (i=1~n) is the estimated model coefficient; X₁ (i=1~n) is the independent variable and is the random error. Meanwhile, the socio-economic characteristic variables used are socio-demographic variables, namely gender, age, education level and income that can influence the perception of coffee farmers in making choices [14]. Based on the research objectives that have been determined, the data analysis used in this study is descriptive analysis and binary logistic regression. Descriptive analysis is used to provide an overview or description as well as the percentage of the questionnaire respondents for each indicator on the variables studied [15].

2.2 Qualitative Approach

In order to answer the second and third objectives, further exploration is needed. Quantitative results will be used as material in conducting FGD (Focus Group Discussion) with several competent parties. The location of the qualitative research was in Silo, Jember Regency. Informants in this study consisted of coffee farmers in the Silo area, Jember Regency, the Government (Bappeda and DPRD Jember and Bondowoso districts), Business Actors (Exelso and coffee business actors). By understanding the two regions, it is hoped that it will provide a broader picture of the problems faced by coffee farmers and their solutions. The FGDs were conducted in a semi-structured manner which made it possible to develop questions according to the conditions of the discussion.

3. RESULTS AND DISCUSSION

The overall test results based on the omnibus test of model coefficient indicates that the G2 value is 20.126 with a p-value of 0.003 which indicates that with a 95% confidence level there is at least one independent variable that has an influence on the dependent variable. Thus, the research model can be used for further analysis. Furthermore, in the partial test, the age variable (0.043) and the income variable (0.016) had a significant effect on the 95% confidence level.

The Hosmer and Lomeshow test shows a value of 0.295 which indicates that with a 95% confidence level the binary logistic regression model used in this study can explain the data or the model is appropriate. Based on the results of the analysis in the summary model, the output results for the Nagelkerke R2 value of 0.37 or 37% which indicates that the ability of independent variables such as Gender, Age, Education, Number of Families, Income, and Production can explain the dependent variable, namely Sales Channels. In addition, the results of the classification plot show that the percentage of predicted variables is said to be able to guess correctly at 95.1% in the conditions that occur.

Based on Table 1, the results of the odds ratio on the age variable show that the possibility of age will give a decision to farmers to choose sales channels to middlemen by 3,393 times than farmers who choose sales channels to cooperatives/others. Thus, adding 1 unit to the age value will add 3,393 times to the sales channel variable. In the education variable, showing the interpretation of the possibility of education. The

estimated odds ratio on the income variable shows the interpretation of the possibility of farmers choosing a sales channel to middlemen based on their income, which is 4,602 times that of farmers who choose a cooperative/other sales channel. Thus, for each addition of 1 unit to the value of income, it will increase by 4,602 times the farmer's decision in choosing a sales channel.

Table 1. Binary Logistics Regression Analysis Results

Variable	B (SE)	95% C.I.for EXP(B)		
		Lower	Odds ratio	Upper
Gender	-1.416 (1.200)	0.023	0.243	2.551
Age	1.222 (0.605) **	1.037	3.393	11.104
Education	0.133 (0.564)	0.378	1.142	3.449
Number of Family	0.436 (0.921)	0.254	1.546	9.402
Income	1.526 (0.634) **	1.327	4.602	15.956
Production	0.237 (0.818)	0.255	1.268	6.299

$R^2 = 0.151$ (Cox & Snell), 0.37 (Nagelkerke),
*** $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The age variable determines the farmer in choosing his sales channel. It is known that the higher the age of the farmer, the higher the experience in farming, managing and selling crops. The experienced farmer will know which sales channel is more profitable for him. The majority of coffee farmers in Jember prefer to sell their harvests to middlemen rather than to cooperative/other channels for the reason that it is easier and faster than cooperative/other channels. Therefore, the results of the logistic regression analysis show that age has a positive effect on the possibility of farmers choosing sales channels to middlemen ($p < 0.05$). Income from farmers' coffee harvests can also influence farmers' decisions in choosing sales channels to middlemen ($p < 0.05$) compared to cooperative/other sales channels. The amount of income from high coffee harvests will increase the decision of coffee farmers to choose sales channels to middlemen rather than to cooperative/other channels. This indicates that selling to middlemen will earn more than cooperative/other channels.

On the gender variable, the results were not significant in the output of logistic regression analysis ($p > 0.05$). Gender has no impact on the decision of coffee farmers in Jember to sell to middlemen. The reason is that both male and female farmers on average have the same decisions in choosing sales channels. Furthermore, the education variable was also found to have no significant effect on the output of logistic regression analysis ($p > 0.05$). This is because the majority of coffee farmers in choosing sales channels are based on their experience not based on their education. Likewise, the number of members who are still covered does not have a significant influence on farmers' decisions in choosing sales channels ($p > 0.05$). This indicates that regardless of the number of families that are still borne, it cannot affect whether farmers will sell to middlemen or cooperatives/others. In addition, the variable cost of production in coffee plants was also found to have no significant effect on farmers' decisions to choose sales channels ($p > 0.05$). This is because the production costs are high or low depending on the yield of the harvest, and the produce sold follows the market price.

4. CONCLUSION

Socio-economic characteristics proved effective in predicting farmers' marketing choices. The numerical results show that the majority of Jember coffee farmers prefer to sell their coffee to middlemen rather than to cooperative/other channels. The results also show that farmers who have the following attributes are more likely to sell their coffee to middlemen: 1) older and 2) earn more. A review of the analyzed socioeconomic features is important for farmer organizations to take decisions so that they can choose the right marketing channels. Support from the government and related parties such as academics is needed by farmers to choose better channels. This is because the majority of farmers sell their coffee products to middlemen for reasons that are easy and fast, so farmers do not consider selling to other channels that can offer prices that exceed middlemen. Thus, the role of government and academics is very important to support the economy of coffee farmers in Jember.

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