SOYBEAN COMMODITY MARKETING SYSTEM IN JEMBER REGENCY

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Abstract. The purpose of this study is first, analyzing the soybean marketing system through the marketing and institutional function approach, marketing channels, market structure, and market behavior in Jember Regency. Second, analyzing the efficiency of soybean marketing channels in Jember Regency on each marketing channel with marketing margin approach, farmer's share, and profit ratio. Marketing institutions involved in the soybean marketing channel are collectors and wholesalers. The marketing functions carried out by these institutions are the exchange function, physical function, and facility function. The soybean marketing channel consists of three channels, namely the marketing channel I (Farmer - Tofu factory), marketing channel II (Farmer - Collecting trader - Tofu factory), marketing channel III (Farmer - Large trader - Tofu factory). The market structure faced by farmers and collectors tends to be a pure oligopsony market. The market structure faced by large traders and retailers tends to lead to pure elative markets. Market behavior at the farm level is carried out with cash payments and pricing at the marketing agency level is determined by higher level marketing institutions. Collaboration between institutions is carried out with mutual trust or subscriptions. Based on quantitative analysis, an efficient marketing channel on marketing soybean marketing channel III. Because it has a large farmer share value of 92.86%, a smallest total margin of 7.14%, and a profit to cost ratio of 3.65.

1. Introduction

The government through the Ministry of Agriculture in the 2015-2019 National Medium-Term Development Plan (RPJMN) has established rice, corn, soybeans, beef, sugar, fish and salt as the main food commodities. Currently, soybeans have become a very popular commodity and become a basic need by most people. Tempe and tofu are side dishes that are very popular with the people of Indonesia. Soy sauce, tauco and soy milk are also derivative forms of soy.

Based on 2014 SUSENAS data released by BPS, the average tempe consumption per person per year in Indonesia is 6.95 kg and tofu 7.07 kg. Ironically, the fulfillment of the need for soybeans, the main raw material for tempe and tofu, 67.28% or as much as 1.96 million tons must be imported from outside. This happens because domestic production is not able to meet the demand of tempe and tofu producers in the country.

The projected national soybean demand in 2016 according to the Central Statistics Agency (BPS) is estimated to reach 2.58 million tons. The next three years continued to increase, each to 2.82 million tons in 2017, in 2018 amounted to 2.95 million tons, and in 2019 to 2.97 million tons. The average growth of national soybean needs for the period was 6.41% per year.

Based on data from the Ministry of Agriculture (Ministry of Agriculture) and the Central Statistics Agency (BPS) above in 2015 it can be seen that there was a (minus gap) difference between

national soybean production of 998.87 thousand tons with projected national soybean needs of 2.58 million tons. There was a shortage of approximately 1.58 million tons of soybeans which eventually forced the Government to import from other countries.

East Java is the largest soybean producer in Indonesia, as it is known that in 2015 the contribution of East Java soybean production to national soybean production was 42.51%, while soybean farmers in Jember Regency contributed 17.28% of the total soybean production in East Java . this means that almost half of the national soybean production is in East Java, and almost one fifth of its production is supplied from Jember Regency. Thus, it is not surprising that Jember Regency is now declared as a soybean barn in East Java.

The high level of soybean consumption is one of the opportunities for increasing soybean farming, increasing soybean commodity production can be done by determining strategies to increase farmers' income, so the question is how is the soybean marketing system through the marketing and institutional function approach, marketing channels, market structure, and market behavior in Jember Regency? and How is the efficiency of soybean marketing channels in Jember Regency in each marketing channel with marketing margin approach, farmer's share, and profit ratio? Based on the background and the formulation of the problem above, the objective of this research is specifically to Analyze the soybean marketing system through the approach of marketing and institutional functions, marketing channels, market structure, and market behavior in Jember Regency. and to analyze the efficiency of soybean marketing channels in Jember Regency in each marketing channel with marketing margin approach, farmer share, and profit ratio.

2. Method

This research will be conducted in Jember Regency, East Java Province. Jember Regency was chosen with consideration that Jember Regency is one of the soybean production centers in East Java with an area of planting area that continues to increase every year. Data collection was conducted in July-December 2019. This research uses primary data and secondary data. Primary data consists of farmers, marketing institutions and factories. The sample farmers (respondents) in this study were soybean farmers who had harvested in the planting season 2018. Determination of farmer respondents was carried out by simple random sampling by visiting farmers who were accompanied by village officials or PPL. Farmer respondents used as a sample are 150 soybean farmers in three districts (Bangsalsari District, Jombang District and Rambipuji District). The amount is considered to be representative to be able to represent the diversity of soybean marketing channels in Jember Regency. Marketing agency respondents involved in the marketing of smallholder rubber up to the factory were determined by the snow ball sampling method, namely the determination of respondents from marketing institutions based first on information from the respondent farmers, then based on marketing institutions appointed by the respondent farmers, and so on until the saturation of the respondents or respondents are difficult to reach. This model is used because the target population of marketing institutions is not clearly known and difficult to approach in other ways (Sarantakos, 1993). In addition, data were also collected from direct interviews with key people in the farming of soybean commodities from upstream to downstream, in order to find out the soybean development strategy in Jember Regency in accordance with the interview guidelines and questionnaire made.

3. Result and Discussion

This study uses secondary data in the form of controlled and uncontrolled variables. Each variable was obtained from the Jember Regency Agriculture Office, the Central Statistics Office of Jember Regency and the East Java Province Climatology Center. The number of research observations was 100 observations (2009-2018) with five Districts which are centers of rice and eggplant production in Jember Regency.

Soybean Marketing System
1. Analysis of Institutions and Marketing Functions

The process of channeling soybeans from producers to end consumers or tofu factories involves several marketing institutions. The marketing institutions involved are collecting traders, wholesalers (wholesalers), retailers and tofu / tempe factories. The institution can be explained as follows:

a. Collecting traders are marketing institutions that play a role in buying and collecting soybeans directly from producers and selling or distributing soybeans to further marketing institutions. Marketing of soybeans in the village involves two types of collecting traders namely village collecting traders and sub-district collecting traders. Village collector traders sell their soybeans to sub-district collection traders, which will then be sold to large traders.

b. Large traders are traders who buy and obtain soy from collecting traders. But there are some farmers who sell their soybean directly to large traders.

c. Retailers are intermediary traders who sell small quantities of soybeans directly to end consumers. This institution receives soybeans from large traders and sometimes from collecting traders. There is one farmer who also acts as a retailer.

d. Tofu and tempeh factories in this marketing system are soybean processors. This research stops at the processing level, therefore in the explanation of marketing channels, the position of the tofu / tempe factory will be aligned with the final consumer.

e. The marketing process can be analyzed through a functional approach that will enhance and / or create value to meet customer needs. The marketing function approach consists of three types, namely the exchange function, physical function, and facility function. The functions performed by marketing institutions can be described in Table 4.4.

Table 4.4 Implementation of the functions of soybean marketing institutions in Jember Regency

Marketing Channel	Marketing function	Activity
Collector trader	Exchange function	Buying, selling and collecting
	Physical function	Storage, transportation and packaging
	Facility function	Grading, finance, risk management and communication
Wholesalers	Exchange function	Buying and selling
	Physical function	Storage, transportation and packaging
	Facility function	Funding, risk management and communication
Retailer	Exchange function	Buying and selling
	Physical function	Storage, transportation and processing
	Facility function	Financing and managing risks

Source. Data processed, 2019

Marketing Channel Analysis

Marketed soybeans are soybeans in the form of young pods and old pods so that the soybean marketing channel consists of two channel schemes. The marketing channel is used to see the marketing institutions involved and started from farmers as producers who then sell soybeans to marketing institutions.

Marketing Channels I

This channel is the shortest channel through which marketing institutions, namely soybean processors, are traversed. As many as 30 people (20%) farmers directly channeled soybean yields in the form of old pods to soybean processors, namely tofu factories nearby. Farmers choose to channel it directly because of its location adjacent to the tofu factory. The tofu factory buys old soybean pods that have been graded by farmers so that all farmers who supply soybeans to the tofu factory sort soybean seeds based on small and large sizes. The amount of soybean flowing through marketing channel I was 15 tons (58.88%) of the total soybean pods sold by respondents' farmers. The price paid by the tofu factory to farmers on average is Rp. 7,562.
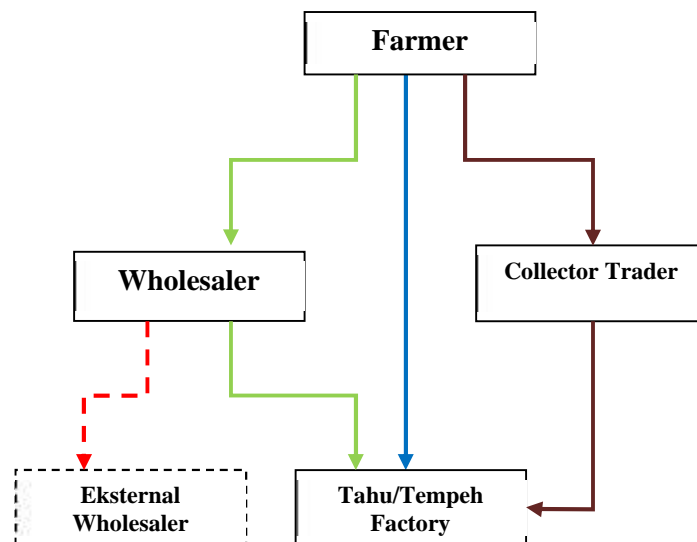
Marketing Channel II

Marketing channel II involves marketing institutions, namely farmers - village traders, soybean processors. Of the 150 respondent farmers, 24 (16%) distributed old soybean pods to village collecting traders because the location of the rice fields was close to the collecting traders. In addition, farmers can sell old soybean pods in small quantities. When the harvest takes place, soybeans are shed and dried first

to produce soybean seeds. Collectors will come to the farmer's house or rice field that has sun dried soybean seeds. So the purchase is done at the farmer's place. The amount of soybean pods distributed to traders is 2 tons (16.88%). Prices paid by traders to farmers are on average Rp. 6,000. The collecting traders then channeled all the old soybean pods to the soybean processors, namely the surrounding tofu factory which had been graded and packaged in a simple sack first. The sale of old soybean pods to tofu factory is subject to an average price of Rp. 7,000. Collectors are subject to packaging and transportation fees to the tofu factory. The sale of soybean seeds is done at the tofu factory.

Marketing Channels III

Marketing channel III involves marketing institutions, namely farmers, large-scale traders, tofu factories. A total of 15 farmers (10%) sell their soybean yields to large traders located in Tanjung Market at an average price of Rp 6,500. Sales are carried out at the stalls of large traders. The amount of soybean pods distributed to traders is 8 tons (24.44%). Large traders then distribute soybean seeds to soybean processors as much as 250 tons (50%). The tofu craftsman buys soybeans from big traders as raw material for making tofu directly from big traders' kiosks. 250 tons of soybean (50%) are distributed to large traders outside the Regency.

Figure 1. Schematic of the old soybean pod marketing channel in Jember Regency

Market Structure Analysis

Analysis of the market structure can be seen in every marketing institution involved. Market structure can be analyzed starting from farmers, collectors, wholesalers, and retailers. Market structure can be determined by four factors namely the number or size of the company, the condition or state of the product, barriers to entry and exit of the market, the level of knowledge or information in the market.

Market Structure at the Farmer Level

Market structure at the farm level leads to pure oligopsony. The number of farmers is greater than the number of traders and almost all farmers in the village of Sukasirna cultivate soybeans. Farmers are price takers because they only accept soybean prices as determined by the price determinant. The position of farmers in determining soybean prices is relatively weak. Commodities traded are homogeneous. Some farmers sell soybeans in the form of old or young pods. Farmers can freely enter and exit the market. Farmers easily plant soybeans during the planting season and sell it to traders or tofu factories in the village. The process of exchanging information also takes place between farmers and from traders. Farmer groups formed in this village facilitate the exchange of information between farmers.

Market Structure at the Collector Trader Level

The market structure at the village and sub-district level traders leads to a pure oligopsonistic market structure. The number of collecting traders is greater than the number of large traders as buyers. The process of determining prices is determined by large traders even though there is a bargaining system for soybean prices. Collectors sell soybeans with two types, old or young pods. Access in and out of the market at the collector trader when faced with farmers is quite easy because in general the collector trader can buy soybeans from any farmer. Barriers to and out of the market are high if the collector is dealing with a large trader because he has become a regular customer even though there is no contract system in buying and selling transactions. Collecting traders know soybean price information from fellow traders and from large traders.

Market Structure at the Wholesaler Level

The market structure faced by large traders leads to pure oligopoly. The number of large traders is less than retailers. The commodities traded are homogeneous namely there are large traders only selling old soybean pods and other large traders that only sell young soybean pods. Large traders are located as a price maker compared to previous marketing institutions. Access in and out at the level of large traders is quite difficult because it requires large capital. In addition, another level of difficulty is the price of the kiosk used for sales. The convenience faced by large traders is the freedom to buy soybeans from any collecting trader. Large traders know soybean price information from fellow traders and internet media to find out price fluctuations.

Market Structure at Retailer Trader Level

The market structure at the retail level tends towards pure oligopoly. This is characterized by the number of retailers which are smaller than the number of consumers. Homogeneous products for sale are soybeans in the form of young pods. The price determination process is carried out by retailers. Retailers can easily enter and enter the market because of the smaller business scale compared to large traders. Retailers can leave the market if the soybeans sold do not provide a large profit and can replace them with other commodities. Price information is obtained from fellow retailers and wholesalers.

Market Behavior Analysis

Market behavior can be identified by observing the system of selling and buying, pricing and payment systems, and cooperation between marketing agencies.

Sales and Purchasing System

The whole farmer operates a sales system and does not make a purchase. Farmers sell old soybean pods to marketing institutions, namely traders, wholesalers, and tofu factories. Delivery of goods sold by farmers is done at the farmer's place as a seller. Old soybean pods sold by farmers have already experienced threshing and drying of seeds. Collector traders buy old soybean pods directly from farmers. Soybean seeds are weighed first so farmers know how much soybeans are sold. Sales are made on a free and contract free basis.

Furthermore, traders sell soybean seeds to the tofu factory. Sales are also carried out on a free and contract free basis. Some farmers also sell old soybean pods directly to the tofu factory which will be used as raw material. The sale of old soybean pods to large traders is done on a free and contract free basis. Large traders buy old soy beans and then sell them to soybean processors and outside big traders in Jember Regency. The system of selling and purchasing made by tofu factory is free and subscription. The purchase of old soybean pods by large traders outside Jember Regency is also done free and subscription. The subscription system is carried out with a mutual trust relationship so that no contracts are made. Farmers sell young soybean pods directly to consumers or through marketing institutions, namely village collector traders, sub-district collector traders, and retail traders. Overall sales activities carried out by farmers are free and not contractually bound. Delivery of goods sold by farmers is done at the farmer's place as a seller. Purchases made by village collectors and farmers are carried out with a

trusting relationship. Village collector traders sell soybeans at the seller's place (village collector trader). The village collector then sells young soybean pods to the district collector trader. Sub-district trader collectors then sell soybeans to large traders in the Tanjung Market. The delivery of goods is done at a large merchant's kiosk. This sale is also done with a free system. Furthermore, large traders sell young soybean pods through several retailers who buy soybeans at large traders' kiosks.

Pricing and Payment System

The pricing system used is generally carried out by higher marketing institutions because they are more aware of the development of soybean prices. Determination of prices and payments for old soybean pods and young pods did not experience a difference. Although there are several marketing institutions that set soybean prices by bargaining system. The price of soybeans sold is determined according to the price of soybeans at the national level so that it can experience fluctuations. The payment system for collectors is cash when the goods are delivered. Pricing is done by collectors who buy soybeans from farmers. Collecting traders then sell soybeans to large traders with the price determination on the part of large traders with a bargaining system. The tofu factory as a buyer carries out a price determination system for old soybean pods in accordance with the quality of soybean seeds and grading activities carried out by farmers. Cash payments are made because all sales and purchases are made on a free basis. At sales at the wholesaler level, payments are made in cash after the soybeans are submitted. Pricing at the wholesaler level is based on prices prevailing in the market and considers marketing costs. This also applies at the retailer level, where all payments are made using a cash system by end consumers.

Collaboration between Marketing Institutions Collaboration between marketing institutions is based on a relationship of mutual trust so that purchases and sales are made using a subscription system. This activity is expected to improve the position of farmers in setting soybean prices to the next marketing institution. Cooperation in the form of information exchange is also carried out by fellow farmers, between farmers and traders, and fellow traders.

4. Conclusion

Marketing institutions involved in the soybean marketing channel are collectors and wholesalers. The marketing functions carried out by these institutions are the exchange function, physical function, and facility function. The soybean marketing channel consists of three channels, namely the marketing channel I (Farmer - Tofu factory), marketing channel II (Farmer - Collecting trader - Tofu factory), marketing channel III (Farmer - Large trader - Tofu factory). The market structure faced by farmers and collectors tends to be a pure oligopsony market. The market structure faced by large traders and retailers tends to lead to relatively pure markets. Market behavior at the farm level is done with cash payments and pricing at the marketing agency level is determined by the higher level marketing institution. Collaboration between institutions is carried out with mutual trust or subscriptions.

5. Acknowledges

6. References

[1] _____. 2016b. *Kabupaten Jember Dalam Angka*. BPS Kabupaten Jember. Jember.

[2] Asmarantaka, R.W. 2012. *Pemasaran Agribisnis (agrimarketing)*. Bogor (ID): Departemen Agribisnis FEM-IPB.

[3] Badan Pusat Statistik. 2016a. *Provinsi Jawa Timur Dalam Angka*. BPS Jawa Timur. Surabaya

[4] David, F. R. 2009. *Manajemen Strategis Konsep*. Edisi 12. Jakarta: Salemba Empat.

[5] Entending, T., Hadayani dan R. P. Adam. 2016. Analisis Pemasaran Dan Strategi Pengembangan Komoditi Kedelai di Desa Nipa Kalemoan Kecamatan Bualemo Kabupaten Banggai. *Jurnal Sains Dan Terapan Tadulako* 5(3): 11-24.

[6] Khoirunnisyah, Fadilah. 2016. Analisis Sistem Agribisnis Kedelai (Glycine max (L.) Merill). Medan: Universitas Sumatra Utara.

[7] Kohls, Richard L., and Joseph N. Uhl. 2002. Marketing of Agricultural Products: MacMillan Publishing Company. New York