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ANALYSIS OF CASHEW MARKETING EFFICIENCY IN EAST SUMBA DISTRICT, EAST NUSA TENGGARA, INDONESIA

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Abstract

This study aims on examining market structure of cashew, examining market behavior of cashew, and analyzing cashew market performance in Lambakara and Nggongi village. Cashew farming has contributed to providing livelihoods and job opportunities for many farmers, both as a side business and as a main business. The result of this study showed that cashew marketing structure tends to oligopoly that cashew farmers become price taker condition, market behavior of cashew in Lambakara and Nggongi village is not efficient yet where farmers are limited to gain price information and market performance of cashew in Lambakara and Nggongi village is not efficient yet. Performance analysis of cashew market in Lambakara and Nggongi village individually obtains selling margin up to Rp. 6,000 until Rp. 6,250 with high farmer share level which is 75% caused cashew farmers to have low benefits. Based on market efficiency level obtained from Lambakara and Nggongi markets individually obtained up to 57.5% until 62.67%, market efficiency value in Lambakara and Nggongi village is higher than 30%.

Key words*: cashew, market behavior, market efficiency, market structure*

INTRODUCTION

Cashew is an important commodity for the Indonesian economy. The economic value obtained from the cashew nut commodity is a contributor to foreign exchange through cashew exports in 2012 which reached 58.8 thousand tons or the equivalent of 115.5 million dollars and as a main job for many Indonesian people [5].

The development of cashew plant area in 2017 is spread across 24 provinces in Indonesia, the largest one is in the East Nusa Tenggara region, namely 171,086 ha with a production of 49,880 tons and productivity reaching 576 kg/ha with the number of farmers cultivating cashew nuts as many as 249,758 households [3].

As with agricultural commodities in general, the problem faced is the unstable price of cashew at the producer and consumer levels, which is partly due to the amount of production and marketing efficiency in East Sumba District. The distance between Lambakara village to the city is around 90 km, while Nggongi Village with hilly and steep terrain conditions is in the southern part of East Sumba with the distance to the city around 143 km, this causes its high transportation costs incurred by middlemen so that it can affect the price of cashew nuts at farmer level. This study aims on examining market structure, market behavior and market performance in Lambakara village and Nggongi village at East Sumba District.

MATERIALS AND METHODS

The population in this study were 312 cashew farmers in Lambakara Village, Pahunga Lodu District, and 111 cashew nut farmers in Nggongi Village, Karera District. Samples are taken by using snowball technique. Primary data is collected by questionnaire, interview and observation, while secondary data is taken from literature study and documentation study.

Descriptive qualitative analysis is used to analyze the market structure and market behavior of cashew in East Sumba Regency, while descriptive quantitative analysis is used to analyze market performance based on marketing margins and profit margins, farmer

share, cost share and profit share of cashew nut marketing.
Systematically, marketing margin can be formulated as follows:

$$\mathbf{M = Bp + Kp}$$

where:
M = margin (Rp/kg)
Bp = marketing costs (Rp/kg)
Kp = marketing profit (Rp/kg)
Farmers share is used to determine the percent of farmers' selling prices to final consumers (price efficiency) using the formula:

$$\mathbf{FS} = \frac{FP}{CP} \mathbf{\ x\ 100\%}$$

where:
FS = farmers share (%)
FP = farmers price (Rp/kg)
CP= costumer price (Rp/kg)
For marketing efficiency, the following formula can be used:

$$\mathbf{EP} = \frac{TB}{TNP} \mathbf{\ x\ 100\%}$$

where:
EP = marketing efficiency (%)
TB = total cost (Rp)
TNP = total product value (Rp/Kg)
The decision rules on marketing efficiency are:
0-33% = Efficient
34-67% = Less efficient
68-100% = Inefficient.

RESULTS AND DISCUSSIONS

Characteristics of Cashew Farmers

Age can affect a person's work productivity. The more mature the farmer, the more his ability and way of thinking will be affected. However, the older farmers also affect his productivity.
Most of the farmers in East Sumba Regency who cultivate cashew nuts are over 50 years of age. The percentage of farmers over 50 years of age in Lambakara Village was 52.6% and Nggongi Village was 52.8%.

Table 1. Age distribution frequency of cashew farmers

Criteria	Lambakara		Nggongi	
	Frequency (person)	(%)	Frequency (persons)	(%)
30-40 years old	10	13.2	14	26.4
41-50 years old	26	34.2	11	20.8
> 50 years old	40	52.6	28	52.8
Total	76	100.0	53	100.0

Source: Processed primary data, 2020.

Farming experience will influence a person's behavior in cultivating his farming. Usually people who have been farming for a long time will have a lot of experience compared to novice farmers, so that it will affect the way they make decisions in their farming. 80.3% of farmers in Lambakara Village have been farming cashew nuts for more than 20 years as well as farmers in Nggongi Village, most of them (64.2%) have started to cultivate cashew nuts for more than 20 years.

Table 2. Distribution frequency of farming experience

Criteria	Lambakara		Nggongi	
	Frequency (person)	(%)	Frequency (persons)	(%)
1-10 years	6	7.9	7	13.2
11-20 years	9	11.8	12	22.6
> 20 years	61	80.3	34	64.2
Total	76	100.0	53	100.0

Source: Processed primary data, 2020.

The number of cashew plants is one of the things that can affect the production of cashew nuts produced. In general, as with the land area, the more the number of cashew plants, the greater the amount of production produced. Most of the farmers with cashew plants in Lambakara Village (52.6%) ranged from 51 to 100 trees.

Table 3. Distribution frequency of cashew plants

Criteria	Lambakara		Nggongi	
	Frequency (person)	(%)	Frequency (persons)	(%)
1-50 years	15	19.7	2	3.8
51-100 years	40	52.6	30	56.6
> 100 years	21	27.6	21	39.6
Total	76	100.0	53	100.0

Source: Processed primary data, 2020.

Likewise with farmers in Nggongi Village 56.6% of farmers have cashew plants ranging from 51 to 100 trees.

Characteristics of Cashew Traders

Age can affect a person's work productivity. The more mature a trader is, the more his ability and way of thinking will be affected. 66.7% of traders in Lambakara Village are in the age criteria of 41 to 50 years. Meanwhile, 100% of traders in Nggongi Village are classified as young, ranging from 30 to 40 years. Most of the inter-island traders (50%) in East Sumba Regency belong to the age of 41 to 50 years.

Table 4. Frequency traders distribution

Criteria	Lambakara		Nggongi		Inter-islands Traders	
	Freq	%	Freq	%	Freq	%
30-40 years	1	33.3	3	100	1	25
41-50 years	2	66.7	0	0	2	50
> 50 years	0	0	0	0	1	25
Total	3	100	3	100	4	100

Source: Processed primary data, 2020.

The length of time a trader conducts his trading business is the period of time the trader starts to engage in the cashew business which is measured in years. Business experience will influence a person's behavior in processing his business. Usually people who have been trying to trade for a long time will have a lot of experience compared to novice traders, so that it will affect the way they make decisions in their business. Most (66.7%) traders in Lambakara Village and inter-island traders in East Sumba Regency have started to pursue cashew nut trading for more than 10 years. Meanwhile, 66.7% of traders in Nggongi Village have just started their business with a range of 1 to 5 years.

Table 5. Distribution frequency of trader frequency

Criteria	Lambakara		Nggongi		Inter-islands Traders	
	Freq	%	Freq	%	Freq	%
1-5 years	0	0	2	66.7	1	25
6-10 years	1	33.3	1	33.3	1	25
> 10 years	2	66.7	0	0	2	50
Total	3	100	3	100	4	100

Source: Processed primary data, 2020.

Analysis of Market Structure

Market structure is the classification of producers into several forms of market based on characteristics such as the type of product produced, the number of producers, whether it is easy to leave or enter the market [7].

Table 6. Cashew market structure

Marketing institution	Trader Total	Buyer Total	Product Differentiation	Resistance to enter market
Lambakara village Farmers	76	-	No	No
Nggongi village Farmers	53	-	No	No
Lambakara village Trader	3	3	No	Yes
Nggongi village Trader	3	4	No	Yes
Trader inter-islands	4	1	No	Yes

Source: Processed primary data, 2020

From the number of farmers/traders from Lambakara Village as many as 76 people and Nggongi Village as many as 53 people selling to 3 village-level collectors, then village-level collectors selling to 4 inter-island traders who are final-level traders in East Sumba Regency. Seeing the unbalanced composition between the number of sellers and buyers, the market structure for cashew nuts is a market that is not perfectly competitive. With this market structure, the market behavior that occurs is the weak bargaining power of cashew farmers in determining/fixing prices, and the dominance of market information, which is a form of strategy in maintaining market stability [9].

Product differentiation as an act of modifying a product to be attractive, namely product design, taste, packaging, size, brand, price even distribution channels. Broadly speaking, product differentiation is a company's product offering that has something better, faster and cheaper which will create higher value for customers than competing products [8].

The products produced by farmers up to the distribution process to the final marketing agency in East Sumba Regency are cashew nuts. The people of East Sumba Regency have not been able to produce processed products made from cashew nuts, this is influenced by

the lack of information, knowledge and technology to process cashew nuts into processed materials to provide added value and also income for people in East Sumba Regency, especially those in Lambakara Village and Nggongi Village.

Barriers to entry and exit of the market are a form of limitation or freedom for farmers to carry out their farming activities [1]. Farmers as cashew nuts producers are free to enter the market, because the type of product needed is in the form of raw cashew nuts. This undifferentiated cashew product gives farmers in East Sumba Regency access to enter the market. In contrast to farmers, traders in Lambakara and Nggongi Villages as well as inter-island traders in East Sumba Regency, there are obstacles to entering the market, which is access to transportation to enter Lambakara and Nggongi Villages with steep road conditions make Village traders need relatively large cost in the transportation sector to reach the cashew market. Limited transportation costs become an obstacle for traders to enter the cashew market in Lambakara and Nggongi villages.

Market Behavior Analysis

Market behavior is the behavior of participants (buyers and sellers/traders). Strategies or reactions undertaken by individual or group market participants in competitive or negotiating relationships with other participants to achieve marketing objectives in a particular market structure. The relationship between buyers and sellers is a competitive relationship.

Table 7. Determining cashew price process and payment process

Marketing Institution	Determining Price	Payment System
Lambakara village farmers	Determined by village collectors	Cash/down payment
Nggongi village farmers	Determined by village collectors	Cash/down payment
Lambakara village farmers	Determined by inter-islands trader	Cash
Nggongi village traders	Determined by inter-island traders	Cash
Inter-islands traders	Bargaining, determining by processing industry	Cash

Source: Processed primary data, 2020.

Determining price is very important process in increasing farmers' income in farming [4].

In Table 7, it is known that the price setting system between inter-island traders as final-level traders in East Sumba Regency and processing industries in Surabaya, in East Java is carried out by bargaining. This shows that these two institutions have the same bargaining position. However, in contrast to the case of farmers, farmers both in Lambakara and Nggongi villages cannot bargain because they already have ties with the existing collector traders. Village collecting traders set the price for buying cashew nuts from cashew farmers based on the purchase price set by the inter-island trader. Meanwhile, inter-island traders set the purchase price for village-level traders based on the price set by the industry or the exporter they subscribe to. So by looking at these facts, the starting point in determining the price starts from the more dominant inter-island wholesalers, which influence up to the cashew farmers. Thus it stands to reason that cashew farmers are the party with the lowest bargaining position in determining the price, so they only act as price recipients.

Analysis of Market Performance

Several marketing agencies involved in the marketing of cashew nuts include farmers, village gathering traders and inter-island traders, which are the final marketing agencies in East Sumba Regency. The marketing agency will establish a marketing channel which is a network of all parties involved in the flow of products or services to consumers [6].

Table 8. Distribution of frequency of marketing actors

Market channel	Farmers		Village traders		Inter-islands traders	
	Freq.	%	Freq.	%	Freq.	%
Lambakara village	76	58.9	3	50	2	50
Nggongio village	53	41.1	3	50	2	50
Total	129	100	6	100	4	100

Source: Processed primary data, 2020.

As many as 58.9% and 41.1% of farmers in Lambakara and Nggongi villages directly sold cashew nuts to collectors in their respective villages. Each as much as 50% of village-level traders sell cashew nuts to wholesalers or inter-island traders in East Sumba District.

Table 9. Price, Cost, Profit dan Marketing Margin (Rp)

Description	Marketing plot	
	Lambakara	Ngonggi
Farmer		
a. Selling Price	15,000	15,000
Village Traders		
a.Purchase price	15,000	15,000
b.Marketing Cost	2,706,667	3,616,667
c.Seling Price	18,000	18,250
d.Profit	7,793,333	7,758,333
e.Margin	3,000	3,250
Inter-islands traders		
a.Purchase Price	17,000	17,000
b.Marketing Cost	7,700,000	7,700,000
c.Selling Price	20,000	20,000
d.Profit	10,300,000	10,300,000
e.Margin	3,000	3,000
Total Cost Marketing Cost	10,406,667	11,316,667
Profit Total	18,093,333	18,058,333
Margin total	6,000	6,250

Source: Processed primary data, 2020.

Marketing margin is done to determine the efficiency of marketing a product from the producer level to the consumer level. Marketing margin is the price difference that occurs in each marketing agency [2]. The marketing margin in Lambakara Village is Rp. 6,000, which is smaller than the value of the marketing margin in Nggongi Village, which is Rp. 6,250. This was influenced by the purchase price set by traders in Nggongi Village, which was higher than the price set by traders in Lambakara Village. This is influenced by the condition of the road access to Nggongi Village which is steep and rocky with a relatively farther distance than Lambakara Village, so that the transportation costs incurred by traders in Nggongi Village are greater.

Table 10. Farmer Share of cashew marketing channel

Marketing channel	Price (Rp/Kg)		Farmer share
	Farmers	Inter-islands trader	
Lambakara	15,000	20,000	75%
Nggongi	15,000	20,000	75%

Source: Processed primary data, 2020.

The farmer share value obtained by each village both in Lambakara and Nggongi villages is the same value, namely 75%. This means that farmers receive 75% of the price paid by inter-island traders. This high farmer share value is influenced by the pattern of short marketing channels, resulting in a fairly large share of the price received by farmers, namely 75%. The absence of a difference in the value of the farmer share between the two villages is influenced by the absence of a difference in the selling price set by traders at the village level Lambakara and Nggongi Village, which is Rp. 15,000/kg.

Marketing Efficiency

The level of marketing efficiency is the result of a comparison of the total marketing costs of cashew nuts with the total value of cashew nuts marketed. The level of marketing efficiency means that every time there is an increase in marketing costs incurred in the marketing channel, it will cause the marketing channel to be more inefficient because the efficiency value will be greater and vice versa. The value of marketing efficiency is seen by comparing the EPs value of one marketing channel with the EPs value of another marketing channel. If one marketing channel has an EPs value that is smaller than the EPs value of another marketing channel, then the marketing channel is more efficient than other marketing channels [10].

Table 11. Marketing Efficiency of Cashew

Marketing channel	Total Cost (Rp)	Total Value (Rp)	Marketing Efficiency (%)
Lambakara village	10,406,667	18,093,333	57.52
Nggongi village	11,316,667	18,058,333	62.67

Source: Processed primary data, 2020.

It can be seen that the value of marketing efficiency in the marketing channels of Lambakara Village and Nggongi Village is obtained by 57.52% and 62.67% respectively. The channel that has the smallest marketing efficiency value is the marketing channel in Lambakara Village at 57.52%. This indicates that the cashew marketing channel in Lambakara Village is a relatively more efficient marketing channel than the cashew marketing channel in Nggongi Village. Based on the criteria for marketing efficiency, the efficiency value of the marketing channels in both Lambakara and Nggongi villages on the efficiency criteria is greater than 30%. So it can be concluded that the marketing of cashew in Lambakara and Nggongi villages is not efficient, this means that every time there is an additional marketing cost incurred in the marketing channel, it will cause the marketing

channel to be increasingly inefficient because the efficiency value will be greater.

CONCLUSIONS

The cashew market structure in Lambakara and Nggongi villages is declared inefficient. The cashew market structure tends to be oligopolistic so that cashew farmers are in a price taker condition. The cashew market behavior in Lambakara and Nggongi villages is declared inefficient. There are several marketing agencies, namely farmers, village gathering traders and inter-island traders, each marketing agency carrying out marketing functions causing farmers to be limited in obtaining price information. The cashew market performance in Lambakara and Nggongi villages is declared inefficient. Analysis of the cashew market performance in Lambakara and Nggongi villages each obtained a marketing margin of Rp. 6,000 and Rp. 6,250 with a high farmer share level of 75% which causes cashew farmers to receive lower benefits. Based on the level of marketing efficiency obtained in the marketing channels of Lambakara Village and Ngonggi Village, it was obtained respectively 57.52% and 62.67% of the efficiency value of the marketing channels in both Lambakara and Nggongi Villages on the efficiency criteria greater than 30%.

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