

# Efficiency of the Nutmeg Marketing System in Kedondong District Pesawaran Regency

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**Abstract.** Nutmeg marketing system is a process of distributing nutmeg seeds from producers to consumers. The bargaining position of nutmeg farmers in Kedondong District is weak. The weak bargaining position of farmers is due to the dominance of traders who are able to control farmers in terms of the price of nutmeg. The weak bargaining position of the farmers will affect the efficiency level of the nutmeg marketing system. This study aims to identify the marketing channels and actors involved in the marketing of the nutmegs, to analyze the marketing margin and efficiency level of the nutmeg marketing system in Kedondong District, Pesawaran Regency. The research data was taken from primary data in the form of interviews and giving questionnaires. The results of this study indicate that the institutions involved in the nutmeg marketing system are village collectors and subdistrict collectors. There are two channels formed in the nutmeg marketing system, namely a two-level channel marketing (Farmer-Village Collector Trader-Sub-District Collector Trader-Consumers) and one-level channel marketing (Farmer-Sub-District Collector Trader-Consumers). The efficiency of marketing of nutmeg was achieved in one-level channel marketing because it had the smallest margin of IDR29,590, had the largest profit to cost ratio of 18.69 and had the largest farmer's share of 42.86%. However, nutmeg farmers still choose the one-level channel marketing because there are factors that influence, namely local wisdom and social capital.

Key words: Nutmeg, marketing Channel, marketing Efficiency

## 1. Introduction

Lampung Province is known as the earth agribusiness. This is indicated by the existence of regional, national and international scale plantation and agribusiness companies that process agricultural products. The agribusiness potentials of Lampung Province is a potential plantation sub-sector. The reason is, the plantation sub-sector is one of the agricultural sub-sectors that has been proven to be able to increase the increase in PDRB in Lampung Province. The plantation sub-sector has the second largest contribution after food crops to GRDP in Lampung Province. The contribution of the plantation sub-sector from 2013-2017 was obtained an average of 21.65% while the first was the food crop sub-sector with an average of 35.08% [4]

The nutmeg commodity is one of the products of agribusiness in the plantation sector which has begun to be developed in Lampung Province. Lampung is one of the provinces that has an area of 803.33 hectares of nutmeg with a production of 58.8 tons [5]. This is supported by the location of the area in the highlands which is a requirement for growing nutmeg [3]. Nutmeg farmers in Kedondong District sell their crops in the form of wet nutmeg. The income earned by the nutmeg farmers is influenced by the form of nutmeg sold and to whom it is sold, because until now the nutmeg marketing process in

Kedondong District is still going through quite a long marketing channel. The number of nutmeg farmers in Kedondong District is higher than the number of related marketing agencies. This makes traders dominate the price of nutmeg, thus weakening the bargaining position of farmers. The weak bargaining position of farmers on the price of nutmeg will affect the level of marketing efficiency of the nutmeg commodity in Kedondong District, Pesawaran Regency. The marketing system is said to be efficient if it provides a fair share of the price for nutmeg farmers. Trade efficiency analysis uses operational (technical) efficiency measures which include analysis of trade margins, share of farmers, and profit and cost ratios [11]. This study aims to identify the marketing channels and actors involved in marketing nutmeg, to analyze the marketing margin and efficiency level of the marketing system for nutmeg in Kedondong Regency, Pesawaran Regency.

## 2. Implementation method

This research was conducted in Sinar Harapan Village, Kedondong District, Pesawaran Regency. This location was chosen purposively with the consideration that Sinar Harapan Village is one of the villages with the largest area of nutmeg plantation in Kedondong District. The sampling method for nutmeg farmers in Sinar Harapan Village was carried out by stratified random sampling with a non-proportional stratified random sampling type so that a total sample of 12 nutmeg farmers was obtained. The sampling of the marketing system was carried out by using the snowball technique (snowball sampling) and the number of institutional respondents was 4 people.

The data collected in this study are primary and secondary data. Primary data was obtained through the interview method using a list of questions (questionnaire) to nutmeg farmers and institutional actors involved in the nutmeg marketing in Kedondong District, Pesawaran Regency. Secondary data were obtained from agencies related to research, one of which was the Plantation and Livestock Service Office of Lampung Province. This research uses qualitative and quantitative research types. Qualitative analysis is used to describe or explain about the marketing channel and trade system of nutmeg while quantitative analysis is used to analyze the level of trade efficiency with 3 indicators, namely trade margin, farmer share and the ratio of profit and cost of nutmeg in Kedondong District. Quantitative analysis was processed with the help of a calculator and Microsoft Excel software. The data analysis methods used in this study include:

### a. marketing margin

Marketing margin is the price range due to differences in the price paid by the end consumer with the price received by the producer [7]. The mathematical calculation of the marketing margin will be obtained as follows:

$$M_{ji} = P_{si} - P_{bi}$$

Information :

$M_{ji}$  : The margin for the marketing system

$P_{si}$  : The selling price at the marketing system

$P_{bi}$  : The selling price at the  $i$ th marketing system or the purchase price at the previous marketing system

### b. Farmer's share

Farmer's share is an indicator in the form of a percentage used to compare the price paid by the end consumer with the price received by the producer [11]. The calculation of farmer's share can use the following formula:

$$F_s = P_r / P_f \times 100\%$$

Information:

$F_s$  : Farmer's share

$P_r$  : Price at firm level of nutmeg

$P_f$  : Price at the level of nutmeg farmers

c. Profit to cost ratio analysis

Profit and cost ratio analysis is used to assess the level of efficiency of the marketing system by looking at the ratio of profits to marketing costs. The profit percentage against the marketing costs at each marketing agency is used to determine the spread of the margin [2].

$$\text{Profit and Cost Ratio} = \pi_i / C_i$$

Information :

$\pi_i$  : Profits of the i-th trade system of service agencies

$C_i$  : The costs of the i-th trade system administration

### 3. Results and discussion

#### 3.1. Characteristics of nutmeg farming respondents

The respondent farmers who were taken as samples were 12 farmers from different RW in Sinar Harapan Village. Characteristics of farmers seen from several aspects, including age of the respondent, level of education and experience in farming. Age of nutmeg farmer respondents ranged from 36-65 years. Respondent farmers were more dominated by farmers aged 46-55 years and 56-65 years, while the lowest age was 36-45 years. The majority of respondent farmers were graduates who did not complete elementary school, namely 50%. The level of formal education will influence farming decision making. The nutmeg farmer has 30 years of experience. The farmer respondents used were 2 people with a land area of > 1 ha, 6 people with an area of 0.5 to 1 ha, and 4 people with a land area of <0.5 ha.

#### 3.2. Characteristics of nutmeg traders as respondents

Respondents of traders in this study used 4 traders. Consisting of 2 village collectors traders, 2 traders collecting sub-district. The ages of nutmeg traders ranged from 20-50 years. Respondent traders are predominantly aged 36-50 years. There were respondent traders who did not complete elementary school, graduated from elementary school, graduated from junior high school and at the highest passed S1. The experience of nutmeg traders in marketing nutmeg ranges from 2-10 years. Previously, a nutmeg trader was a cocoa trader and then changed to a nutmeg trader.

#### 3.3. The nutmeg marketing system and channel in Kedondong District, Pesawaran Regency

A marketing system is a business entity or individual that operates a marketing system, distributes services and commodities from producers to end consumers, and has relationships with other business entities. This trade system has a duty to carry out the functions of the marketing system. The marketing system used in selling nutmeg from farmers to final consumers in Sinar Harapan Village is as follows:

1. Village collector traders

Village collectors are traders who buy nutmeg seeds directly from farmers. Village collector traders will carry out drying activities before selling them to subdistrict collector traders.

2. Sub-District collectors traders

Sub-district collector traders are marketing institutions that buy nutmeg directly from farmers and also buy from village collectors who have collaborated with them. The function of the marketing system in each of the nutmeg marketing organizations in Sinar Harapan Village, Kedondong District can be seen in Table 1.

Table 1. The marketing system function in each channel of the nutmeg marketing system in the District Kedondong, Pesawaran Regency

Trade Function	trade system	
	Village collector traders	Sub-District collectors traders
Exchange Function		
- Purchase	✓	✓
- Sales	✓	✓
Physical Functions		
- Storage	✓	✓
- Processing	✓	✓
- Transport	✓	✓
Facility Functions		
- Standardization	✓	✓
- Risk bearing	✓	✓
- Market information	✓	✓
- Capital	✓	

Source: Primary data, processed in 2020

The channel marketing can be interpreted as a series of activities to distribute nutmeg from producer farmers to final consumers, namely companies or exporters. The nutmeg marketing in Sinar Harapan Village, Kedondong District has 2 marketing channels. The channels marketing are as follows:

- I. Farmers - village collectors traders – subdistrict collectors traders - consumers (companies).
- II. Farmers - subdistrict collectors traders- consumers (companies).

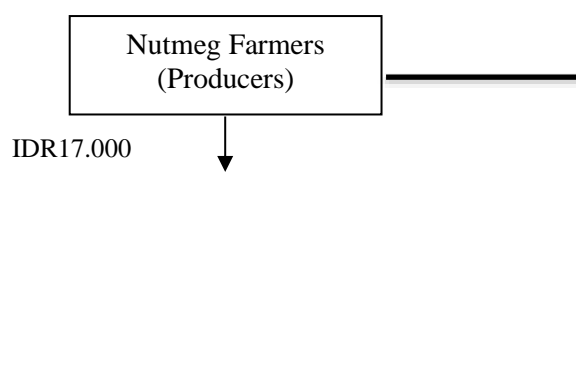
The research was conducted using 12 nutmeg farmer respondents. Each of the nutmeg farmers uses the channel marketing they want. The nutmeg farmers using the two level channel marketing consisted of 8 nutmeg farmers, the one level channel marketing consisted of 4 nutmeg farmers.

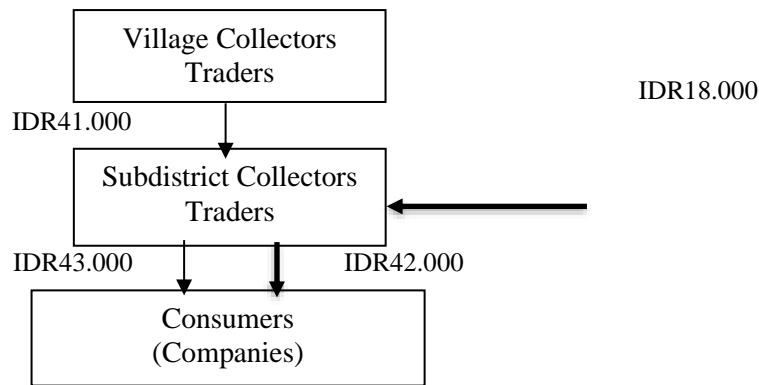
Table 2. Percentage of nutmeg farmers in each of the nutmeg channels marketing in Sinar Harapan Village Kedondong District

marketing channels	Number of Nutmeg Farmers (People)	Percentage (%)
Farmers - village collectors traders – subdistrict collectors traders - consumers (companies).	8	66,67
Farmers - subdistrict collectors traders - consumers (companies).	4	33,33
Jumlah	12	100

Source: Primary data, processed in 2020

The schematic of the nutmeg marketing channel in Kedondong District, Pesawaran Regency, can be seen in Figure 1.





Information: ——— Two level chanel marketing  
 ——— One level chanel marketing

Figure 1. Marketing channels and flow of money in marketing nutmeg

### 1. Two level chanel marketing

Two level chanel marketing is starting from nutmeg farmers - village collectors - village collectors - end consumers (companies). This channel is a long channel marketing can be seen in Figure 1. Total of 12 respondents, there are 8 respondents who chose this channel. Village traders buy nutmeg from farmers when it is wet. So that village collectors will dry the nutmeg seeds before they are sold to subdistrict collectors. When the amount of dry nutmeg has reached 500 kg, it will be sold directly to subdistrict collectors. Sub-district collectors will then sell dry nutmeg to companies in the Way Ratai area. The company processes dry nutmeg into essential oil which will then be sent to PT Danau Intan in the Padang area of West Sumatra. The products of essential oils will be processed again into various products and some of them will be exported.

### 2. One level chanel marketing

One level chanel is a marketing channel that has been chosen by many nutmeg farmers to sell their palms. Respondents who chose this channel were 4 respondents from a total of 12 respondents. If the percentage is 33.33%, the nutmeg farmers choose the second marketing channel. This marketing channel nutmeg farmers sell their nutmeg seeds in a wet state to sub-district collectors. Sub-district collectors will dry and sell the dry nutmeg seeds to PT Indomuskat Adidaya Perkasa. The second marketing channel is also called a short channel because it only passes through one intermediary or marketing system, namely the subdistrict collector trader.

### 3.4. Nutmeg marketing Efficiency Level in Kedondong District, Pesawaran Regency

The marketing channel can be considered efficient if it meets two conditions, namely being able to deliver the results of the producers at the lowest cost and being able to make a fair share in the total price paid by the final consumer to all parties who participate in these production and marketing activities [12]. The operational efficiency of the nutmeg marketing system in Sinar Harapan Village, Kedondong District can be seen by three indicators, namely marketing margin, farmer's share and profit-to-cost ratio.

#### 3.4.1. Marketing margin of nutmeg

The marketing system margin is the sum of all marketing costs and profits taken by the trade system during the marketing process from one trade system to another [1]. The level of marketing margin is used to measure the efficiency of the marketing system. The greater the marketing margin, the more

inefficient the marketing system [8]. The margin of wet nutmeg marketing system can be seen in Table 3.

Table 3. Marketing Margin of Nutmeg in Sinar Harapan Village, Kedondong District

Trade System	Description	Chanel Marketing			
		1	Share	2	Share
		(IDR/Kg)	(%)	(IDR/Kg)	(%)
Farmer's	a. Price	12.410	28,86	12.410	29,55
	b. Trade Costs	130	0,35	150	0,36
	1. Packaging costs	130	0,30	130	0,31
	2. Transportation costs	-	-	20	0,05
	c. marketing Margin	4.590	10,67	5.590	13,31
	d. Profit Margin	4.460	10,33	5.440	12,95
Village Collectors	a. Price	17.000	39,53	-	-
	b. Trade Costs	1.138	2,65	-	-
	1. Biaya angkut	67	0,16	-	-
	2. Transportation costs	106	0,25	-	-
	3. Storage costs	295	0,69	-	-
	4. Sorting costs	120	0,28	-	-
	5. Drying costs	400	0,93	-	-
	6. Packaging costs	127	0,30	-	-
	7. Depreciation cost for equipment	23	0,05	-	-
	c. marketing Margin	24.000	55,81	-	-
	d. Profit Margin	22.862	53,17	-	-
Subdistrict Collectors	a. Price	41.000	95,35	18.000	42,86
	b. Trade Costs	1.269	2,95	1.353	3,22
	1. Biaya angkut	-	-	-	0,00
	2. Transportation costs	536	1,25	500	1,19
	3. Storage costs	107	0,25	107	0,25
	4. Sorting costs	120	0,28	240	0,57
	5. Drying costs	330	0,77	330	0,79
	6. Packaging costs	162	0,38	162	0,39
	7. Depreciation cost for equipment	14	0,03	14	0,03
	c. marketing Margin	2.000	4,65	24.000	57,14
	d. Profit Margin	731	1,70	22.647	53,92
Company	a. Price	43.000	100,00	42.,00	100,00
	Total cost	2.537	5,95	1.503	3,58
	Total marketing Margin	30.590	71,14	29.590	70,45
	Total Profit Margin	28.053	65,19	28.087	66,87

Table 3 shows that the marketing margin in the two level chanel marketing is IDR 30,590, while in the one level chanel marketing it is IDR 29,590. Based on the results of the marketing margin, it can be seen that the marketing margin in the one level chanel marketing is smaller, namely IDR 29,590 compared to the marketing margin in the two-level chanel, which is IDR. 30,590. This shows that one chanel marketing is more efficient because the margin value of marketing is smaller than two chanel level marketing and only involves one intermediary, namely sub-district collector traders, while two level chanel involves two intermediaries, namely village collectors and sub-district collectors.

### 3.4.2. Farmer's share of nutmeg marketing in Kedondong District

Farmer's share is an indicator to determine the operational efficiency of a commodity marketing system. Farmer's share is the part of the price received by farmers against the price paid by consumers. The recapitulation of the results of the farmer's share analysis of each channel of the nutmeg marketing system in Kedondong District, Pesawaran Regency, is seen in Table 4.

Table 4. Farmer's share of the nutmeg marketing channel in Kedondong District

Marketing Channel	Prices At Farmers Level (IDR / Kg)	Prices At The Consumer Level (IDR / Kg)	Farmer's Share (%)
Two level marketing chanel	17.000	43.000	39,53
One level chanel marketing	18.000	43.000	41,86

The results of farmer's share analysis showed that the largest portion received by farmers was in two level chanel, which was 39.53%, while in one level chanel, it was 41.86%. If the share received by producers is less than 50%, it means that the trade system is not efficient and if the share received by producers is more than 50%, then the trade system is said to be efficient [6]. So the two marketing channels in Kedondong District are not efficient because the farmer's share value is less than 50%.

### 3.4.3. Profit to cost ratio

The distribution of the ratio of benefits and costs can be used to see the distribution of benefits that are fair and equitable according to the cost sacrifices incurred by each institution in marketing activities. The more evenly the distribution of profit and cost ratios in each trade system, the more efficient operationally or technically the marketing system [10]. It shows that the two marketing channels of nutmeg in the Village of Sinar Harapan, Kedondong Subdistrict, have a distribution of the ratio of profits and costs that do not spread and there is no fair share of profits between marketing operators. The largest B/C ratio was found in the second marketing channel, namely 17.46 and the first channel of 11.23. This indicates that the one level chanel marketing is more efficient because the value of the ratio of profits and costs is greater than the channel of two level chanel marketing. The distribution of profit and cost ratios for each marketing channel can be seen in Table 5.

Table 5. The distribution of the ratio of profits and costs of each channel of the nutmeg marketing system Kedondong District

Marketing System	Two-level chanel marketing	One-level chanel marketing
Subdistrict Collectors Traders		
- Cost	843	-
- Advantages	22.989	-
- B / C Ratio	<b>27,27</b>	-
Village Collectors Traders		
- Cost	1.269	1.353
- Advantages	731	23.630
- B / C Ratio	<b>0,58</b>	<b>17,46</b>
Total Cost	2.112	1.353
Total Advantages	23.720	23.630
Total B/C Ratio	<b>11,23</b>	<b>17,46</b>

Marketing system can be said to be efficient if it has a lower total margin value of marketing because it means that it is able to deliver the results from producers to the final consumer at low cost. Has a greater farmer's share value than one marketing channel with another. Has an even distribution of the ratio of benefits and costs [9]. Based on the analysis and calculation of each channel, an efficient

channel is found in the one level channel marketing. This is because the one level channel marketing has the smallest total margin and the largest farmer's share, as well as a higher profit and cost ratio. Although one level channel marketing is more efficient, 66.67% of the total respondents chose two level channel marketing. This is due to several factors that influence, namely the existence of kinship between the nutmeg farmers and village collectors and the existence of social capital that keeps the nutmeg farmers selling seeds nutmeg in two level channel marketing.

The selection of efficient marketing channels aims to improve the welfare of nutmeg farmers in Sinar Harapan Village, Kedondong District and improve the bargaining position of farmers. This can be realized by forming a marketing agency for collective marketing of nutmeg, one of which is by forming farmer groups so that the bargaining position of nutmeg farmers can be stronger. The formation of farmer groups also functions as a provider of production facilities such as fertilizers, agricultural equipment and so on. Farmer groups can also provide added value (value added) to nutmeg by processing it so as to produce other products such as essential oils, candied nutmegs and others. This processing is useful for increasing the income and welfare of farmers.

#### 4. CONCLUSION

Based on the results of research conducted on the nutmeg marketing system in Kedondong District, Pesawaran Regency, the following conclusions were obtained:

1. There are 2 institutions involved in the nutmeg marketing system, namely village collectors traders and subdistrict collectors traders. There are two channels formed in the nutmeg marketing system, namely:
  - a) Farmers - village collectors traders – subdistrict collectors traders - consumers (companies).
  - b) Farmers - subdistrict collectors traders- consumers (companies).
2. Marketing system efficiency is achieved in the one level channel marketing because it has the smallest margin of IDR29.590, has the largest profit to cost ratio of 17,46 and has the largest farmer's share value of 41,86%.

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