Marketing Analysis of Smallholders Rubber Processing Materials (*Bokar*) In Karang Intan Sub – District, Banjar District, South Kalimantan

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Abstract: *Basically, marketing activity was one of agribusiness activities.Marketing also became an important priority that must be considered in managing existing rubber products.The highest marketing cost was in third channel with the sheet product that was the total of all costs at the UPH level with the amount of Rp 1.769,- per kg. The highest marketing margin was in third channel with the sheet product at UPH level of Rp 5.000,- per kg. While the highest marketing profit was in third channel with the sheet product at the level of UPH, with the amount of Rp 3.231,- per kg.Share of farmer-level prices were all considered efficient because it was more than 50%. The highest share profit was in first channel at the level of lump collector with the percentage of 55,86% and the highest share cost was in second channel at the level of slab collectors with the percentage of 55,60%. The biggest percentage from marketing efficiency was second channel with the marketing product of slab product with the percentage of 21,93%.*
Keywords: *rubber processing materials, marketing efficiency, rubber, profit, margin and share*

I.   Introduction

Agricultural sector was one of the sectors that had important role in Indonesian economy. It was caused by Indonesian characteristics that had the nature of agricultural, therefore Indonesia was called as agrarian country that had rich natural resources.One of agricultural commodities with positive growth on state's foreign exchange income was plantation commodity.One of subsectors in plantation sector was rubber(*Hevea brasilliensis*). In Indonesia, rubber plant was one of agricultural product that supported the country's economy.

Marketing was also an important priority that must be considered in managing existing rubber products,because based on the previous studies, it was stated that good marketing would increase the selling price of the natural rubber itself. Basically, marketing activity was one of agribusiness activities.Rubber marketing system involved several marketing institutions such as traders, rubber auction markets, and crumb rubber factories (exporters). The demand from rubber end consumers made the factories needed a large supply of rubber from several marketing institutions so that the factories became the regulator in meeting the supply of rubber.

The problems of this research could be formulated as follow: (1). How far was the involvement of marketing institutions and marketing channels that were formed in the marketing of Rubber Processing Materials (BOKAR) in that region?And how much was the marketing cost, margin, and profit that were received by BOKAR's marketing in that region? (2). How much was the share of farmers, the share of profit, and the share of cost that was received by the marketers of *BOKAR* in the region also how much was the efficiency of the marketing of each product that was produced from *BOKAR* in the region?

Purposes and Significances

Based on the background of the problem and the research problems above so that this research aimed to find out: (1). To analyze the involved marketing institutions and marketing channels that were formed in marketing of *BOKAR* in the region and to analyze the amount of marketing cost, margin, and profit that was received by the marketers of *BOKAR* in the region. (2). To analyze the amount of share of farmers, profit, and cost that was received by the marketers of *BOKAR* in the region and to analyze the amount of efficiency of marketing of each product that was produced from *BOKAR* in the region.

In addition, this research was expected: (1). For the researchers, this research could be used as the source of knowledge and also as the experience also the reference of research in the future. (2). For rubber farmers, as the information in order to efficiently distribute their farming products so that they got the profit as expected.

II. Research Method

Location and Time of Research
The research was conducted at Biih Village, Karang Intan Sub-District, Banjar District, fromNovember 2019 from March 2020.

Sampling Method
Research location was chosen intentionally orpurposive sampling,that was Karang IntanSubdistrict and Biih Villagewas chosen as research location because it had the most various *bokar* product at Banjar District. Furthermore, to determine the sample of farmers from 103 of total of farmers that included in the farmer group at Biih Village, 43 farmers were selected with the description of 11 sheet product farmers from the total of 11 farmers, 16 slab product farmers from the total of 24 farmers and 16 lump product farmers from the total of 68 farmers. Furthermore, for the determination of sample collectors, *UPH*, large collectors and factories by finding out those who involved in marketing *bokar* usingSnowball Sampling method. Data was collected through interview and was supported with questionnaire.

Data Analysis
To answer the first purpose that was to find out the number of institutions and marketing channels at Biih Village Karang Intan District by following the *bokar* marketing expedition route from the producers to the ultimate consumer. All of the expeditions from *bokar* was recorded so that it formed marketing channels. To answer second answer that was calculating marketing cost that was calculated by marketing institutions, so that the following formulation was used :

$$C_{ij} = A_{ij} \times P_{ij}$$

Note :

C	=	Cost for transportation activity (labors) (Rp/kg)
A	=	Transportation activities (labors)
P	=	Price that is paid on transportation activity(labors) (Rp/kg)
i	=	Level of farmers, level of traders or level of retailers
j	=	Product Types(lump, slab, or sheet)

To calculate the amount of marketing margin that was through the calculation of the difference between the price paid by the last buyer and the price paid to the first buyer :

$$M_{ij} = Hk_{ij} - Hp_{ij}$$

Note :

M	=	Marketing margin(Rp/Kg)
Hk	=	Consumer price (Rp/Kg)
Hp	=	Producer / farmer price (Rp/Kg)
i	=	Level of farmers, collectors or retailers
j	=	Product Types (lump, slab, or sheet)

To calculate the marketing profit, that was through the calculation of the difference between marketing margin and marketing cost, could be used formulation as follow :

$$\pi_{ij} = M_{ij} - C_{ij}$$

Note :

M	=	Marketing margin (Rp/Kg)
C	=	Marketing cost (Rp/Kg)
π	=	Profit (Rp/Kg)
i	=	Level of farmers, collectors, or retailers
j	=	Product Types (lump,slab, or sheet)

To calculate Share of the price that was received by the marketers, so that the following formulation could be used :

$$Sh_{ij} = \frac{P_{ij}}{Pt_{ij}} \text{ X 100 \%}$$

Note :

Sh	=	Share of price received by the marketers (%)
P	=	Marketing price (Rp/kg)
Pt	=	Final sale price (Rp/Kg)
i	=	Level of farmers, collectors, or retailers
j	=	Product Types (lump, slab, or sheet)

To calculate *Profit Share* that was gained in the marketing process could be found out through the calculation as follow :

$$Sk_{ij} = \frac{\pi_{ij}}{(Pr - Pf)} \text{ X 100 \%}$$

Note :

Sk	=	Profit share of marketing institutions
π	=	Profit
Pr	=	Final sale price (Rp/Kg)
Pf	=	Price at farmers' level (Rp/Kg)
I	=	Level of farmers, collectors, or retailers
J	=	Product Types (lump, slab, or sheet)

To calculate Cost Share that was gained in the marketing process could be found out through the calculation as follow :

$$Sb_{ij} = \frac{C_{ij}}{(Pr - Pf)} \text{ X 100 \%}$$

Note :

Sb_i	=	Cost share of marketing institutions
C_i	=	Cost of marketing institutions
Pr	=	Final sale price (Rp/Kg)
Pf	=	Price at farmers' level (Rp/Kg)
I	=	Level of farmers, collectors or retailers
J	=	Product Types (lump, slab, or sheet)

For the criteria of decision-making regarding whether or not a marketing institution was efficient if it was considered from the profit share and also cost share was as follow (Widyaningtyas*et, al.* 2014) :

- It is efficient if $Sk_{ij} > Sb_{ij}$
- It is inefficient if $Sk_{ij} < Sb_{ij}$

According toSoekartawi (2002) in Ningsih in 2015, Marketing efficiency was ratio between the total of cost and the total of value of product marketed, could be formulated:

$$EP = \frac{TB}{TNP} \text{ X 100\%}$$

Where :

EP	=	Marketing Efficiency (%)
TB	=	Total of Cost (Rp/Kg)
TNP	=	Total of Product Value (Rp/Kg)

Therefore, it could be defined that the lower or the smaller of marketing efficiency percentage so that the more efficient the marketing was. Vice versa, the higher or the bigger the marketing efficiency percentage so that the less efficient the marketing was.

III. Research And Discussion

Characteristics of Respondents

Age of Respondents.Based on the research results, it could be found out that all of the farmers classified as being in productive age to work. At that age, the farmers were still able to work and fulfill their family's need.

Levels of Education.Levels of education of lump farmers, that were *SMP*(Junior High School) and*SMA* (Senior High School)had the highest number, that was 5 people. Whereas, *S1* (Bachelor's Degree)had the lowest number, that was only 2 people. For the level of education of slab farmers, *SD*(Elementary School)had the highest number that was 6 peopleand*SMP*(Junior High School) and*SMA* (Senior High School) had the lowest number, that was 5 people. Whereas, for the level of sheet farmers, *SD* (Elementary School) and *SMP* (Junior High School) had the highest number, that was 4 people. While *SMA* (Senior High School) had the lowest number, that was only 3 people.

Term of Farming Business.The research result showed term of farming business of the level of lump farmers was less than 20 yearsand 21 years to 30 years had the biggest number, that was 6 people and the term of farming business with the term of 31 years to 40 years was only 4 people. For the term of farming business of slab farmer level with the term of 21 years to 30 years was 9 people and the term of farming business with the term of 31 years to 40 years old was only 3 people. Whereas the largest number for the term of farming business was 21 years old to 30 years old with the number of 4 people and the smallest number was the farming business with the term of 41 years that was only 1 person.

Area of Productive Plants.Area of rubber plantation produced lump farmers of 3 Ha had the largest number that was 9 peopleand the smallest number was area of 4 Ha with only 3 people. For the area of rubber plantation produced slab farmers with the area of 2 and 3 Ha had the largest number that was 5peopleand with the area of 6 Ha was only 1 person who owned it. Whereas, the area of rubber plantation produced sheet farmers with the area of 4 Ha had the largest number that was 4 people and with the area of 5 Ha was only 1 person who owned it.

Marketing Institutions

Based on the data that was obtained from the research result, the involved marketing institutions in lump, slab or sheet of product marketing Biih Village was as follow :

1.   Collectors.This marketing institution conducted marketing by purchasing lump and latex product to make slab from the farmers at Biih Village. Then, the collectors sold slab and lump product to the factories in South Kalimantan in Banjarmasin.

2.   *UPH* (*Unit Pengolahan Hasil*/Yield Processing Unit). This marketing institution conducted marketing by purchasing the products produced by rubber plantations where in this case it was fresh latex product that would be used to make sheet from the farmers. For the latex purchased from the farmers then it would be processed to make sheet. Then,*UPH*would sell the sheet product that has been smoked to the level of big collectors.

3.   Big collectors. This institution also conducted marketing by purchasing the product from *UPH*where it was sheet product. Then, the sheet that has been purchased would be packaged or arranged as well as possible so that it formed a cube then it was pressed using special pressed machine of sheet product in that warehouse. Then, the sheet product was delivered to the warehouse in Java using container that would be delivered through ship.

4.   South Kalimantan Factories. This factory was one of marketing institutions that conducted marketing by purchasing lump and slab product from the collectors. This factory processed lump and slab product to become SIR 20 product then sent the product in the form of SIR 20 to Java for further processing.

5.   Factories outside South Kalimantan. It was one of marketing institution that conducted ,arketing activity by purchasing the product of rubber plantation where in this case it was SIR 20 product that has been processed well from combination and mixture of lump and slab products from the factory in South Kalimantan in Banjarmasin. Once it was received by the factory outside of South Kalimantan, this SIR 20 product was usually processed further.

6.   Processing warehouse in Java. It was one of institutions that also conducted and participated in marketing by purchasing the product of plantation or rubber where in this case it was sheet product that was purchased from the big collectors in Padang Panjang Village Karang Intan Sub-District, Banjar District.

Marketing Channels
There were three marketing channels of rubber plantation marketing at Biih Village. The marketing channels could be described as follow:

Channel I (Lump Product)
Farmers – Collectors – Factories in South Kalimantan – Factories outside South Kalimantan (Java)
Channel II (Slab Product)
Farmers – *UPH* (*Unit Pengolahan Hasil*/Yield Processing Unit) – Factories in South Kalimantan – Factories outside South Kalimantan (Java)
Channel III (Sheet Product)
Farmers – *UPH*(*Unit Pengolahan Hasil*/Yield Processing Unit) – Big Collectors – processing warehouse in Java

Marketing of Lump *Bokar* at Channel I
1.   Farmers
The selling price from the farmers to the collectors for lump product was Rp 5.000,-with the total number of lump product was 11.076 kg. Price share that was received by the farmers for lump product in channel 1was 58,82% that was obtained from the selling price to the collectors was divided with the selling price of collectors to the Factories inside South Kalimantan then it was multiplied with 100%.

2.   Collectors (lump product)
        For marketing cost, it was divided into 3 parts, that were transportation cost, loading and unloading cost, and depreciation cost.The average transportation cost was Rp 250,- per kg was obtained from the total of transportation cost that was divided with lump product purchased from the farmers.
        The average cost of loading and unloading wasRp 45,- per kg. For the average of depreciation cost was Rp 1.250,- per kg that was obtained from the selling price that was multiplied with product number that was purchased from the farmers in channel I then it was multiplied with the depreciation percentage of 25%. The average selling price from the collectors to the factories was Rp 8.500,-.The average of its marketing margin wasRp 3.500,- per kg and the average of marketing profit that was obtained from the collectors was Rp 1.955,- per kg.
        For the profitshare at the level of collectors, it was55,86% that was obtained from the collectors profit that was divided with the final price then it was multiplied with 100%. For cost shareat the level of collectors was 44,14% that was obtained from the cost of collectors that was divided with final price then it was multiplied with 100%.

Marketing of Slab *bokar* at Channel II
1.   Farmers
Sellling price from farmers to collectors for latex product for making slab was Rp 4.500,-with the total number of slab product of 12.162 kg. Price share that was received by the farmers for lump product at channel 1 was 60.00% that was obtained from farmers' selling price to the collectors was divided with collectors' selling price to the factories in South Kalimantan then it was multiplied with 100%.

2.   Collectors (slab product)
        For marketing cost, it was divided into 3 parts, that were transportation cost, loading and unloading cost, and depreciation cost. The average of transportation cost was Rp 250,- per kg was obtained from the total of transportation cost that was divided with the total of latex productfor making slab that was purchased from the farmers at channel II. The average of loading and unloading cost was Rp 45,- per kg. For the average of depreciation cost wasRp 1.350,-per kg that was obtained from the purchase price of latex for slab product was multiplied with the number of latex for making slab product that was purchased from the farmers at channel I then it was multiplied with the depreciated percentage of 35%. The average of selling price from the collectors to the factories was Rp 7.500,-.
        The average of its marketing margin was Rp 3.000,- per kg and the average of marketing profit that was obtained by the collectors was Rp 1.332,- per kg. For the profit shareat the level of collectors was44,40% that was obtained from the profit of collectors was divided with final price then it was multiplied with 100%. For cost share at the level of collectors, it was55,60% that was obtained from the collectors cost was divided with final price then it was multiplied with 100%.

Marketing of Sheet *Bokar* at Channel III
1.   Farmers
Harga jual rata–rata dari petani ke UPH untuk lateks pembuatan produk sheet adalah sebesar Rp 4.000,- dengan jumlah total lateks untuk produk sheet adalah 8.176 kg. *Share* harga yang diterima petani disaluran III adalah sebesar 55,81% yang didapatkan dari harga jual petani ke UPH dibagi harga jual pengumpul besar ke gudang di Pulau Jawa kemudian dikali dengan 100%.

2.   UPH (produk sheet)
For the marketing cost, it was divided into 2 parts, that were transportation cost, and loading and unloading cost. Transportation cost was Rp 150,-that was obtained from the total of transportation cost was divided with the total of latex product for making sheet that was purchased from the farmers at channel III. Loading and unloading cost was Rp 45,-. Selling price from UPH to the big collectors was Rp 17.000,-.
Its marketing margin wasRp 5.000,- that was obtained from selling price of UPH minus farmers' selling price. Marketing profit that was obtained by UPH was Rp 3.231,- per kg that was obtained from marketing margin minus total of marketing cost. Forprofit share at the level of UPH was35,90% that was obtained from the profit of UPH was divided with final price then multiplied with 100%. Forcost shareat the level of UPH was19,66%that was obtained from the cost of UPH that was divided with final price then multiplied with 100%.

3.   Big Collectors (sheet product)
For the marketing cost at the level of big collectors, there was transportation cost that was divided into 2parts, that was ship cost of Rp 450,- per kg and labors cost wasRp 1.200,- per kg that was obtained from HOK multiplied with Wages then divided with the total of sheet product that was purchased from UPH of channel III. Selling price from big collectors to the warehouse in Java was Rp 21.000,-.
Marketing margin of big collectors was Rp 4.000,-that was obtained from selling price of big collectors minus selling price of UPH to the big collectors. Marketing profit that was obtained by big collectors was Rp 2.350,- per kg that was obtained from the margin of marketing minus total of marketing cost. For the profit share at the level of big collectors was 26,11% that was obtained from the profit of big collectors divided with final price then multiplied with 100%. For cost share at the level of big collectors, it was18,33% that was obtained from the cost of big collectors divided with final price then multiplied with 100%.

Marketing Efficiency (EP)
To see the marketing efficiency of each channel, it could be seen in Table 1 as follow.

Table1. Marketing efficiency

Channel	TBP / kg	NP / kg	EP (%)
1	Rp 1.545	Rp 8.500	18,18
2	Rp 1.645	Rp 7.500	21,93
3	Rp 1.845	Rp21.000	8,79

Source : *Pengolahan Data Primer (2020)*/ Primary Data Processing (2020)

Note :
TBP   = Total of Marketing Value
NP   = Product Value
EP   = Marketing Efficiency

From table1, it could be seen that the highest percentage from the threechannels was channel 2 with the marketed product of slab product with the percentage of 21,93%. Whereas, the lowest percentage from the three channels was channel 3 with the sheet product with the percentage of only 8,79%.
According to its definition, marketing efficiency was the ratio between total of cost with total of product value that was marketed, where it could be defined that the lower or smaller the percentage of marketing efficiency so that the more efficient the marketing. On the other side, the higher or bigger the percentage of marketing efficiency so that the less efficient the marketing.
It meant channel 3 that was the most efficient compared from those 3 existing channels and channel 2 was the least efficient from those 3 existing channels. It could be said if sheet product was the most efficient product compared with lump or slab product. Whereas slab product was the least efficient compared with sheet and lump product.

IV. Conclusion And Suggestion

Conclusion

Based on this research results, the conclusion can be drawn as follow.

1.   (1).   Marketing institution that conducts marketing activity by purchasing processing rubber material were 6 institutions.

Marketing channels that occur at Biih Village consist of three channels that form two level channels, that were:Channel 1, Channel 2 and Channel 3.

(2).The biggest marketing cost was at channel 2 with slab product, that was Rp 1.645,- per kg. For the biggest margin was at channel 3 of level of UPH that was Rp 5.000,- per kg. Whereas, the biggest marketing profit was at channel 3 at the level of UPH that was Rp 3.231,- per kg.

2.   (1). The highest farmers' level share

1price was at channel 2 that had price share that was 60,00%. It can be concluded that channel 1, channel 2, and channel 3 was considered efficient because it had price share above 50%.

(2).The highest profit share was at

Channel 1 was at the level of lump collectors with the percentage of 55,86% andthe highest cost share was at channel 2 at the level of slab collectors with the percentage of 55,60%.The biggest percentage of marketing efficiency of 3 channels was channel 2 with the product that was marketed was slab product with the percentage of 21,93%.

Suggestions

1.   For the farmers, it was suggested to keep on trying to produce lump, product, latex for slab and also latex for sheet because it was considered from price share (farmer share) that is the most efficient, three of them can be said efficient. This is caused by price share of these three products was above 50%.

2.   Whereas the level of collectors and *UPH*, if it is considered from the calculation research, it is suggested to sell lump product and only make sheet product, because if it is considered from the difference between profit shareand cost share, slab product is considered inefficient. But, the level of collectors can still make slab product because this is needed by the factories as additional material to make SIR 20 products along with lump.

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