

Analysis of Marketing Channel for Food Commodity in North Sumatra, Indonesia

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Keywords: Trading, Food, Marketing Channels, Farmer share, Revenue

Abstract: Less availability food, and lame path distribution from producer to consumers . show that system production and system distribution some food disturbed because quality means and infrastructure transport many broken . So the increase price at the level consumer far more big compared with increase price at the producer level . the objectives reviewed, 1) : For to know commodity supply channels food 2) For knowing efficient system commerce on channel system commerce . 3) For knowing Policy system commerce commodities food . the Research do at five district namely : district Simalungun , Karo , Dairi , Tapanuli and North Langkat . Analytical method with marketing margin analysis , farmer's share, and B / C ratio. The channel length a suggestion would be to improve the high price disparities that can be detrimental to farmers and consumers, high disparity rice commodity experienced a 132%, the ratio of red chili commodity farmers gain the highest 45.31%. Farmer share highest commodity of red chilli 89 % . In order to regulate the food commodity trade in North Sumatra, the following policies are needed : 1) to provide guidance and assistance to farmers for the empowerment of farmer groups; 2) development of production and market information system and the law on food commodity trading to maintain price stability; 3) improve coordination and synergy of farmers and enterprises to handle production, post-harvest, marketing and credit development of food commodity development.

1 INTRODUCTION

Food self - sufficiency is one of the main targets of agricultural development in the future. This food self-sufficiency program has a meaning and a very important role for the life of a nation because experience has proved that the disruption to food security such as rice crisis in 2008, marked by rice price fluctuation, has taught that protecting the domestic market with food self-sufficiency efficient is indispensable (Sawit *et al* , 2010). This is more due to the supply aspect due to disruption of production and distribution systems in some places The percentage of price increases at the consumer level is much greater than the percentage increase in prices at the producer level.

Food is the most basic needs, especially people in North Sumatra to meet the needs of his life. On the other hand, the number of people who continue to increase every year is a problem faced by local governments in supporting food security. This enormous food demand if not offset by increased food

production will certainly be a problem. This problem occurs one of which is caused by the strategic commodity food trade in the market that is not running properly and not in favor of farmers and consumers.

Province of North Sumatra is one of the central areas of strategic food commodity production in Indonesia. The resulting strategic food commodities consist of rice, soybeans, corn, onion, chili, beef and sugar. Some of the strategic food commodities produced in North Sumatra in recent years continue to experience a very high price increase. This price increase is triggered by a variety of factors and one of them is the amount of supply in the market as a result of limited production at the producer level (farmers). This price increase can indirectly trigger inflation. The purpose of the implementation of this study activity are: 1) To know channel, institution, function structure and market behavior of strategic food commodity trading in Sumatera Utara. 2.) To know the efficiency of the trading system in every strategic food commodity trading channel in North

Sumatera.3. To know the implication of strategic commodity food trade policy in North Sumatera.

2 RESEARCH METHODS

This research was conducted at Prov insi of North Sumatra with 5 (five) regions Regency / City namely: Simalungun, Karo, Dairi, and Tapanuli Utara and Langkat . The study time was conducted for 8 (eight) months counted start March to October 2017). Total sample of farmers taken for interviewed as many as 210 each - 30 farmers from 5 (five) commodities of rice, corn , onion, red chili , and beef with a reason to enlarge the diversity of the research results and is considered to have described the condition of farmers in Province of North Sumatra. Quantitative analysis is conducted to see the efficiency of trading by using the analysis approach of trading margin, farmer's share, and profit and cost ratio (R / C). According to Limbong and Sitorus (1987) mathematical trade margin analysis can be formulated as follows:

$$Mi = Psi - Pbi \quad (1)$$

$$Mi = Ci + Li \quad (2)$$

From the equations (1) and (2) , it is obtained :

$$Li = Psi - (Pbi - Ci) \quad (3)$$

Description :

Mi = The trading margin at the i-the business institution (Rp / kg).

Psi = The selling price of the i-the business institution (Rp / kg)

Pbi = The purchase price of the i-th business institution (Rp / kg)

Ci = Cost of business at approved agencies to i (USD / kg)

Li= The profit of the i-th business agency (Rp / kg).

Farmer's share analysis is used to compare prices paid by end consumers to the price of products received by farmers (Limbong and Sitorus, 1987). *Farmer's share* has a negative relationship with the trading margin. If the *farmer's share* is low, the farmer / *farmer's share* is high, and vice versa if the *farmer's share* is high, then the share will be high. *Farmer's share* is determined based on the price ratio received by the farmer / farmer (Hj) at the price received by the end consumer (He) and expressed as a percentage. Mathematically *farmer's share* is formulated as follows:

$$FS = Hj / He \times 100\%$$

Information :

$$FS = \text{Farmer's Share} (100\%)$$

Hj = Selling price at farmer's level (Rp / kg)

He = Retail price at end consumer level (Rp / kg)

3 RESULTS AND DISCUSSION

3.1 Development of Commodity Price of Food of North Sumatra

Average price of ingredients needs principal in 33 districts / municipalities of North Sumatra Province in the week first month of February 2016 (date 01-06 February 2016), to commodities rice , ie Rice Kuku Balam average price of Rp . 11.420 / kg and Rice Jongkong Ir 64 average price of Rp . 10,500 / kg. For Meat Cow, that is Meat Cow Pure average price of Rp . 110.830 / kg. Corn Dry the average price of Rp.4.870 / kg. For commodities Onions , ie Onion Red Import average price Rp . 24.290 / kg, Onion Red Local average price of Rp . 29.130 / kg, and Onion White average price of Rp . 29.450 / kg.

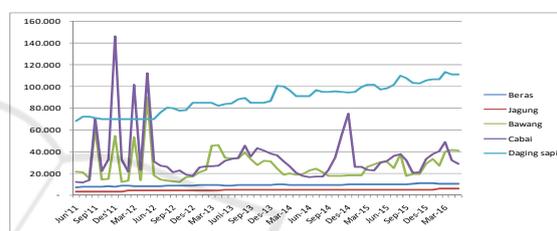


Figure 1 . Strategic Food Price Development In North Sumatra

Information obtained from Center Medan City Market price meat cow soaring enough sharp usually price selling it only Rp.90.000-Rp.95.000 / kg, now translucent in the range of Rp.110.000 / kg. Increase this happen because of lack of supply Meat Cows in the city of Medan are making price Meat Cow soaring up ,

Table 1. Dispartis Price of Food in North Sumatra

Commodity	Selling price		Price Disparity
	Farmers	Consumer	
Rice	4400	10220	132%
Corn	2828.13	4750	67%
Red onion	20667.6	44000	112%
Red chili pepper	22000	24950	13.40%
Beef	64000	110000	71.87%

Source: Primary data

Based on Table 1 that the rice commodity experienced disparity high price grain (equivalent rice) in the producers with price rice in consumers by 132 percent, where there relationship no proportional price between in producer and in the consumer . This shows the cost of each high marketing institution in its channel. And followed by onion commodities by 112 percent. Be different with red chili with a degree

of price disparity of 13.40 percent, this is because the production of chili directly sold through the auction.

3.2 Institutional Analysis and Functionalization

A institution of food trading system is a business entity, individual or economic actors who are involved directly or indirectly

Table 2. Food Custody Function in North Sumatra

Marketing Function	Rice		Corn		Onion		Chili		Beef	
	f a r m e r s	A g e n t	f a r m e r s	A g e n t	f a r m e r s	A g e n t	f a r m e r s	A g e n t	f a r m e r s	A g e n t
Purchase	√	√	x	√	x	√	x	√	x	√
Sales	√	√	√	√	√	√	√	√	√	√
Transportation	x	√	√	x	x	√	x	x		√
Storage	x	√	x	√	√		x	x	x	x
Sorting	x	x	x	x	x	x	√	x	x	x
Financing	√	√	√	√	x	x	√	√	x	x

Source: Primary data processed

Rice farmers perform marketing functions such as purchasing, selling, financing, risk aversion and market information. Grain Agents perform marketing functions such as purchase, sale, transportation, storage, financing, risk handling and market information. Rice mills, wholesalers, municipal market traders siantar, traders of Tanah Jawa sub-district market, selantar retailer kiosks and retailers of Baha Bah Jambi II retailers do all the marketing functions of buying, selling, transportation, storage, financing, risk-taking, standardization and pricing information.

Corn farmers in the storage function are sometimes done by processing plants / mills and retailers. This is done to minimize transportation costs. Storage of corn is generally put in the burlap and stored in the warehouse before being processed and resold so as not to cause a high cost. All corn marketing agencies are doing transport functions to market corn to end consumers. One of the biggest costs in any marketing agency is the cost of transportation.

The trade-off functions carried out by the offender on the research area are the functions of exchange (buying and selling), physical functions (transportation, storage, distribution) and facility functions (risk and funding).

All marketing agencies of red chillies perform the transportation function to market red cabi to the final consumer. Most farmers sell hasi 1 red chili crop through the auction. One of the biggest costs in any marketing agency is the cost of transportation. Marketing agencies that perform sorting functions when buying or selling red peppers are big traders. While farmers, agents and collectors do not do sorting. Sorting is done by separating red peppers based on varieties and moisture content. But Marketing Loss is not experienced by each marketing agency. This is due to the sale of chili at each institution all can be accepted by consumers.

3.3 Market Channel Analysis

In general, farmers carry out sales at trading institutions such as Agents, middlemen, to mills (rice), large traders and then to retailers and directly to consumers. This can be seen in the picture below:

3.3.1 Marketing Channel of Rice

- Farmers - Agents - Mill Sentry Refineries - Large Traders - Holding Market - Retailers - Consumers
- Farmers - Agents - Mill Sentosa mill - Large trader - Parent Market - Consumer.
- Farmers - Agents - Mill Sentosa Mill - Dolog
- Farmers - Agents - Double mill rollers - Grocery Traders of Java - Village kiosk sellers - Consumers
- Farmer - Agent - Multi Grinder - Village Trader Java Land - Kosumen

3.3.2 Marketing Channel of Corn

- Farmers - Refineries - Agents - Wholesalers - Large traders - PT Phokhan Charoen - Retailer - Consumer
- Farmers - Refineries - Agents - Wholesalers - Large Peddlers - Milling Mill - Retailer - Consumer
- Farmers - Refineries - Agents - Gatherers - Wholesalers - Retailers - Consumers
- Farmers - Refineries - Wholesalers - Large Wholesalers - Retailers - Consumers

3.3.3 Marketing Channel of Red Onions

- Farmers - Wholesalers - Retailers - Consumers
- Farmers - Wholesalers - Large Wholesalers - Retailers - Consumers

3.3.4 Marketing Channel of Chili Red

- a. Farmers - Wholesalers - Retailers - Consumers
- b. Farmers - Place of Auction - Consumers

3.3.5 Marketing Channel of Beef Cattle

- a. Breeder - Gatherer - Animal Slaughter House (RPH) - Market - Consumer

3.4 Analysis of Market Structure

The market structure shows how a market is organized based on characteristics that determine the relationships between different market sellers, between buyers and between buyers and sellers in the market, so that the market organization influences the competitive circumstances and market pricing

The market structure of rice in the simalungun district is in imperfect competition that leads to oligopsoni. This market structure causes the bargaining position of the farmer to be always weak compared to the bargaining position of the traders, especially in the opportunity to obtain a reasonable price. Farmers are always positioned as price takers. The price formed is determined by the collecting merchant. In imperfect competition markets farmers and consumers have low bargaining where farmers always receive low prices whereas consumers pay a high price, unequal margin distribution where the price received by producer farmers is low while the intermediary traders earn a great advantage

chili farmers as much as 45,31 whereas merchant equal to 61,90 meaning that bigger marketing expense will be more profit.

Table 4 Trading Margins

Commodity	Price		Customized Margin
	Sell	Buy	
Rice	8580	6912.5	1667.5
Corn	3810.42	2871,73	938.69
Red onion	34166,83	21738.32	12428,51
Red chili pepper	24300	18820	5480
Beef	84750	57250	27500

Margin marketing is the difference between the selling price and the purchase price and is one of the indicators used to measure the efficiency of a marketing system. Increasingly big value margin system commerce show increasingly big income institution system commerce and increasingly small part the price received by the farmer on the prices are payable by consumers. Based on the analysis of food trading margin, the most efficient trading channel is Rice because it has the smallest marketing cost of Rp. 1667, 5 whereas which is inefficient is a beef trading channel of Rp. 27,500 because it has the biggest marketing co

Table 3. Analysis Ratio Advantages and Cost trade system

Commodity	Marketing Cost (Rp)		Profit (Rp)		B / C ratio (%)	
	Farmers	Merchants	Farmers	Merchants	Farmers	Merchants
Rice	519.36	272.29	388.064	584.94	7.47	1.99
Corn	796.55	689.15	277.5	3299.37	3.48	4.78
Red onion	157.18	2001.73	222.60	36664.84	1.41	18.31
Red chili pepper	475	1581.64	215.25	97918.36	45.31	61.90
Beef	2923.58	4075.33	640.00	87591.33	21.89	21.49

Source: Primary data

Based on profit ratio analysis (R / C) for every one rupiah marketing cost incurred in rice commodity will give advantage to farmer equal to 7,47 whereas marketing cost of merchant will give profit to trader equal to 1.99. while red pepper will give profit to red

Table 5. Farmer's Share Analysis

Commodity	Price		Farmers Share
	Farmers	Consumer	
Rice	4400	10220	44.30
Corn	2828.13	4750	59.88
Red onion	20667.6	44000	47.70
Red chili pepper	22000	24950	89
Beef	64000	110000	58.18

Source: Primary data

The farmer's share analysis is a channel management analysis by comparing the price received by the farmer and the price paid by the end consumer. Analysis Farmer's Share contrary with margin

system commerce in besides value . Increasingly high margin system commerce something product or commodity means accepted part.

Farmers increasingly low . Based on table 5 shows that rice commodity has the smallest value of farmer share of 44.30%, while the largest farmer share in red chilli commodity is 89%, it means the marketing channel of red pepper commodity is more operational efficient compared to rice commodity.

Table 6. Efficiency of Food Coverage Marketing

Commodity	Total Product Value (Rp / Kg)	Total Marketing Cost (Rp / Kg)	Marketing Efficiency (%)
Rice	32160	1334,26	4.34
Corn	110050	10636,58	9.67
Red onion	126285.14	6486.80	5.21
Red chili pepper	24875	395.41	1.56
Beef	108333	4075	4

Source : Primary data

Marketing efficiency can be deduced from the smallest marketing cost, lowest channel and product cost / value ratio. From the results of the above research, the most efficient marketing channel is the red chili commodity 1.56 because the marketing channel is done by the auction market with the other word the lower the efficiency level, the smaller the marketing costs incurred.

3.5 Strategic Food Commodity Policy Policy in North Sumatra

To organize a strategic food commodity trading system in North Sumatra, various policy efforts are needed: 1) fostering and assisting farmers to empower farmer groups; 2) development of production and market information systems and legislation on strategic food commodity trading to maintain price stability; 3) improve coordination and synergy and form cooperative farmers and enterprises to handle production, post-harvest, marketing and lending business efforts in strategic food commodities.

According to Sandyatma (2016), In this case, Perum BULOG has a central role as a price stabilizer institution and as a fair referee in the procurement of food. Breakthrough (1) expanding the scope of its business as an "aggregator business" in dealing with all strategic food commodities, (2) acting as food buffers, and (3) stabilizing food prices.

From the new food supply formulation and policy support, if supported by the synergy of relevant ministries / agencies and stakeholders, it is not

impossible that the President's direction can be realized: cutting the supply chain into 3-4 supply chain players, stable food prices and BULOG stock adequate, the producer price disparity shrinks, the producer enjoys the fair profit, the trader still exists, the consumer gets the low price and controlled inflation, the creation of new structure food market structure, and the most important is the creation of a just food trade order for farmers, traders and consumers.

To anticipate the increase in public demand ahead of the holiday, surely the increase in production would be a source of momentum, of course this will only happen if accompanied by anticipatory steps especially to encourage the availability of various commodities. In addition to the availability aspect, the important and urgent thing to note is to improve the healthy and competitive market structure. Especially if the problem is a basic commodity that *in fact* has a very *inelastic* demand properties.

Anything price then consumer no have alternative other besides must permanent buy it . According to Hartati (2016) minimum three step absolute presence Government for solve the fundamental problem of turmoil price seasonal this . **First** and The main thing to be do is ensure data upgrades production or supply . Certainly needs every year experience enhancement along with growth residents . **Second** , prevent and close slit room occurrence behavior competition is not healthy . The key , the government must have enough reserves to avoid give room for holder domination supply for toying with price . **Third** , keep up kel ancaran current distribution goods . If that could done , undoubtedly every Ramadan and Lebaran come , no turmoil price faced however precisely become the momentum for exciting lethargy economy .

To anticipate the decrease of production of Red Chili agriculture due to decreasing harvest time, new planting, weather factor and high rainfall causing the quality of chilli decreased then the simultaneous harvest of paddy rice so that the chilli farmer no time to harvest the chili and deliver to the auction market then the role extension workers (PPL) in the field must be aggressively socialize to the farmers, otherwise the farmer will directly sell his agricultural production (red pepper) to an agent or a wholesaler outside the auction market mechanism resulting in reduced supply to the auction market

Field Officer (PPL) should be technically equipped to provide counseling and socializing to farmers and record the time of planting and harvest time red chili region of their respective duties that can

be ascertained the availability of the production of each region

The government urges farmers to sell their products through the auction market and it is expected that the Market Office and Pamong Praja Officer in North Tapanuli to monitor and stop the transactions outside the market mechanism as long as they do not violate the rules, because there are still many agents doing transactions before the red chili farmers arrived at the place auction.

Red pepper farmers are equipped with counseling process of making or processing animal feed, organic fertilizer so that they are sure to decrease dependence on the use of chemical fertilizers so that production cost can be minimized and better quality of harvest.

Efforts that can be made to improve Marketing Efficiency

1. In order for rice production not to overflow to the market beyond the market demand at a certain moment, for example at harvest time, then set the planting schedule, partnership and government policy to accommodate rice production in abundance, such as DOLOG buy grain farmers at a price not too low so farmers can plant rice again. The government should establish a self-sufficient policy on trend when production exceeds consumption is possible for export and when production is less likely to import rice.
2. Involving farmers / farmer institutions in planning rice cultivation.
3. Have a good market information tool, so can quickly market information to the farmers and try to know the price.
4. It is necessary to immediately prepare a strong and skilled farmer institution in entrepreneurship in the effort of farmers development and specialize for marketing and marketing of rice
5. Encourage the formation of Village Unit Cooperative (KUD) in the field of sales, processing and purchasing, and increase lending to farmers

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusion

From the results of the above research obtained results that:

1. Marketing Channel of rice in the village of Tanah Jawa district of Simalungun found 5 channels of marketing, There are 4 types of marketing channels

of maize In the village Tiga binanga in Karo District, Marketing Channel of Onion in District Silahisabungan Dairi district there are 2 channels market, there are 2 marketing channels of red pepper in the village Siborong-borong Tapanuli Utara, Marketing Channel of Meat Beef in Besitang Sub-district, Langkata District found 1 channel of trading.

2. The market structure faced by rice farmers, onion maize and red peppers and beef tends to be close to perfectly competitive markets. The seller and buyer deal price is the result of bargaining, while the buyer's payment of the deal price can be by cash and installment.

3. The analysis of trading costs shows that rice milling and corn mill milling have a high cost structure because they perform the processing functions and bear transportation costs.

4. DOLOG and Auction Markets acts as an institution that balances market prices and as one of the variables in the calculation of inflation, price stability in the auction market will be very helpful in controlling the inflation rate.

4.2 Suggestion

The suggestions that need to be conveyed are as follows:

1. Farmers are better to sell to grinders and farmer groups in the form of dry milled grain (GKG) because it will increase the selling value, farmer groups need to strengthen the capital to increase the purchasing power of the farmers' harvest. The hall for extension services is expected to provide counseling to farmers to increase the selling value of their grain and provide counseling to the farmers groups to improve the marketing role of farmer groups. Milling needs to reinvest the processing machinery to increase the yield of rice produced so that the processing cost can be more efficient. In addition, the mills need to strengthen the capital to be able to distribute rice directly to retailers without going through large traders. DOLOG support prioritizing local rice absorption can be a marketing opportunity by the marketing agencies at the research sites. The large distribution of relatively equal benefits among agencies can be a force for market expansion.

2. For local government, in this case the Department to develop and refine the marketing system by organizing a marketing system that is more profitable farmers. Such as cooperatives that function in the field of sales and purchases and play a role in providing all the necessities of production advice with lower prices and a role in the marketing of food

products to reduce marketing costs while increasing bargaining position in determining the price of production, so the marketing system is much more efficient

ACKNOWLEDGEMENTS

The authors would like to thank to support from The Ristekdikti as give fund for my research.

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