

The Effectiveness of Auction Market for Red Chili in North Tapanuli Regency, Indonesia

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ABSTRACT

Red chili (*Capsicum annum L*) is one of the agricultural commodities that has a strategic role in the economy of North Sumatra Province. Red chili is vulnerable to price fluctuations. One way to minimize high price fluctuations is with the auction market. This study aims to determine the mechanism and impact of the implementation of the auction market, know the difference in product selling prices inside and outside the auction market and the level of effectiveness of the red chili auction market in North Tapanuli Regency. The method used in this study uses descriptive analysis method. The research respondents were 32 farmers who had sold their red chili on the auction market. Sampling of farmers, sub-districts and auction market locations was conducted using a purposive method considering that the auction market was only in North Tapanuli Regency. The results of the study indicate that the auction market mechanism has been going well which involves farmers, intermediary traders, Government Companies, and government agencies. There is a difference in the selling price per kilogram between prices that occur inside and outside the auction market. The impact of the auction market implementation includes: higher selling price, certainty that the production can be sold, and the speed of the buying and selling process. The level of effectiveness of auction that has occurred is effective (77.93%). The biggest indicator that influences the effectiveness of the auction market is the act of conflict or tension that occurs in auction market institutions, greater output (benefits) and flexibility that occurs between actors in the auction market.

Keywords: Auction market, Effectiveness, North Sumatra, Red chili

INTRODUCTION

The agricultural sector is one sector that has a strategic position in the economy of North Sumatra Province. This sector acts as a source of food ingredients, industrial materials, foreign exchange sources and as a job absorber. This is shown that in 2017, this sector made a major contribution to the formation of the Gross Regional Domestic Product (GRDP) of North Sumatra Province which amounted to 24.88% and was the largest absorber of labor reaching 37.52% (BPS, 2018). The large contribution of the agricultural sector in the economy makes

North Sumatra Province one of the production centers for agricultural products in Indonesia.

Red chili is one of the agricultural commodities that has a strategic role in the economy of North Sumatra Province. In 2015, North Sumatra was the second largest production center in Indonesia, which reached a red chili production volume of 178,559 tons (17.94% of national production)(Ministry of Agriculture, 2016). Therefore, the development of red chili commodities is a very necessary thing. However, the problem faced is that red chili

is one of the causes of inflation in the economy. Red chili commodities are categorized as volatile food by Bank Indonesia. The price of red chili tends to fluctuate as a result of the gap between production and needs in the community. As happened in Sindh Pakistan, farmers tend to sell crops before or during harvest to agents at lower prices. This is due to the inability of farmers to buy agricultural inputs and the lack of access to financial institutions (Mangan, Tehmina & Ruthbah, Ummul, 2018)

North Tapanuli Regency is one of the regencies that has a large enough area and is suitable for the cultivation of red chili most of the residents make a living as farmers. Red chili is one of the strategic commodities to be developed in this area. Red chilis originating from this area are mostly marketed outside the region, especially Riau and West Sumatra Province. This condition further disrupts the price of red chili. According to Patrianisya (2015), red chili is also one of the agricultural products that are vulnerable to price fluctuations. Prices can jump high but can also change very low. Price games by middlemen (collectors) are very detrimental to red chili farmers. A sustainable market that produces benefits fairly is a market that is expected to be realized (Padulosi et al., 2013). One solution to creating a fair, sustainable market that is able to reduce the fluctuations in the price of red chili is the existence of an auction market.

The institutional conceptual auction market is the concept of agricultural product trade transactions as an effort to find open, transparent and best prices, provide value protection, and increase trade efficiency. The price agreement that occurs in the auction market is a process of agreement between the seller and the buyer at the level of market prices that occur (Damoma et al., 2013).

Since 2016, North Tapanuli Regency has established a red chili auction market in two different places, namely in Siborong Borong and Tarutung Subdistrict. The

Regional Government through Regional Owned Enterprises has developed a red chili auction market with a relatively simple and growing management. Experts argue that institutions can be interpreted as a norm/rule of law or organization that facilitates coordination in shaping the expectations of each that may be achieved by working together (Rintuh & Miar, 2003). The auction market is considered an institution that is able to provide benefits to farmers. The auction market is considered capable of suppressing the fluctuations in the price of red chili. Supriyanto et al. (2012) in their research stated that the auction market provides benefits to farmers, both socially and economically. Based on this, this study aims to determine the mechanism and impact of the implementation of the red chili auction market in North Tapanuli Regency and to know the effectiveness of the auction market in North Tapanuli Regency.

RESEARCH METHODS

The analysis used in this study is descriptive analysis. The method of analyzing description is a method that describes, gives a systematic description of the factual phenomenon examined through the collection of information originating from the respondent and making generally accepted conclusions. Data collection techniques in this study were conducted using three methods, namely: interview, direct identification and literature study. The data used are primary data and secondary data. Primary data collection is done by survey method through in-depth interviews using questionnaire instruments to farmers, traders, and government agencies. Secondary data was obtained from various publications originating from government agencies and various information related to auction market institutions through library studies.

The implementation of data collection includes two stages, namely making data collection instruments (questionnaires) and data collection

activities in the research area. The sample selection technique in the study was carried out deliberately with the consideration that the implementation of the auction market in North Sumatra only exists in Tarutung and Siborong Borong Subdistrict, North Tapanuli Regency. Respondents selected by chance were at the auction market location when the auction market was held.

To find out whether there is a difference in the price of Red Chili that occurs inside and outside the auction market, it is tested using a different test on average 2 samples do not pair with each other (Independent Sample 2 Test). Different tests 2 unpaired samples are used to determine whether two unpaired samples have different mean values. Average difference test by comparing differences that occur between two standard errors from 2 unpaired samples. The hypothesis used in this study is:

Ho: There is no difference in product selling prices that occur inside and outside the auction market

H1: There are differences in product selling prices that occur inside and outside the auction market

RESULTS AND DISCUSSION

The auction market is one of the means of trade, this is stated in the Trade Law No. 7 of 2014. The auction market for agricultural products was established by the Ministry of Trade. This auction market aims to create a good trading system of

agricultural products through transparency in pricing mechanisms, increasing the efficiency and effectiveness of the trading system, creating incentives for increasing production and quality and increasing the income of producer farmers. The auction market is very important for farmers as producers, whose role is often weak by the conventional trading system mechanism.

The law constitution that the central government, regional governments and the private sector jointly or individually develop trade facilities including the auction market for agricultural products. This development is aimed at creating a conducive climate for competitive business strength so as to increase efficiency-based national competitiveness.

Tarutung and Siborong Borong Auction Market Mechanism in North Tapanuli Regency

Conventionally, the market is the place for the sale and purchase of products between sellers and buyers who are the main market players. The seller and the buyer determine the price correctly according to the bargaining power. The government is expected to be able to have a role not only as a provider but also facilitate trade transactions to be efficient and effective so that trade takes place safely, transparently, smoothly and in a controlled manner (Patriansyah et al., 2015). In general, the red chili auction market has a mechanism as in figure 1.

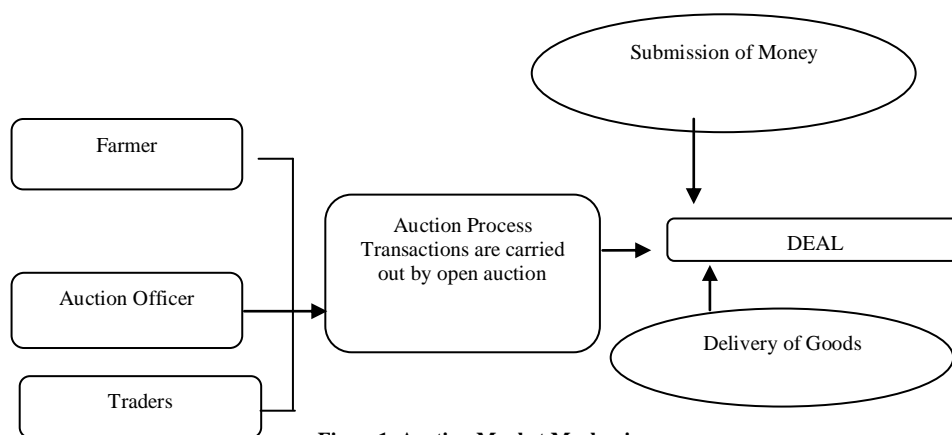


Figure1. Auction Market Mechanism

The auction market in North Tapanuli is in two locations, the Siborong Borong auction market which begin in March 2016, and the Tarutung auction market starts in July 2016. In essence, the auction market forms in these two regions are auction markets with SPOT types, namely markets where a cash and carry transaction occurs between the seller and the buyer of goods/commodities so that the handover of payments and products is carried out at that time. The SPOT type auction market aims to shorten the distribution chain from producer farmers to consumers and improve the mechanism of transparent price formation at the farmer level. The auction market for this system, farmers brought red chili products and immediately auctioned off at the time of the auction. With this condition, producer farmers get better margins according to their contribution and the auction market mechanism can reduce the role of intermediaries that have the potential to result in inefficiencies.

The auction market mechanism include nine steps: First, farmers come to the auction market by bringing their red chili production; Second, the auction committee consists of the Department of Industry and Commerce, Government Companies and the Department of Agriculture. Department of Industry and Commerce and Government Companies are

tasked with finding price information and inviting traders; Third, traders generally come from the local area (North Tapanuli Regency); fourth, the auction officer is from the government to weigh red chili and be registered into the purchase note which is then given to farmers. The volume of the scales will be reduced by 0.5 kg if the production of farmers is below 30 kg and reduced by 1 kg if the production of farmers is above 30 kg; Fifth, red chilies are grouped based on the quality and quantity of red chili produced by farmers. In one grouping the red chili is calculated as the overall weight by including the name of the owner of red chili and in one group weighing less than 300 kg. then numbering each group sack for the next auction process in sequence; Sixth, After that, the auction is carried out by opening the basic price set by the government in this case the Regional Company; Seventh buyers who are collectors check the quality and quantity of auctioned red chili in order to determine the auction price offered by the buyer; eighth, the highest price offer made by the buyer, it will be sold and decided by the auctioneer on the condition that the collector directly pays the place to the auction committee; ninth, farmers submit a note to the auction committee, which will then pay the farmers the sale of red chili according to the auction price that has already occurred. For more details can be seen in Figure 2.

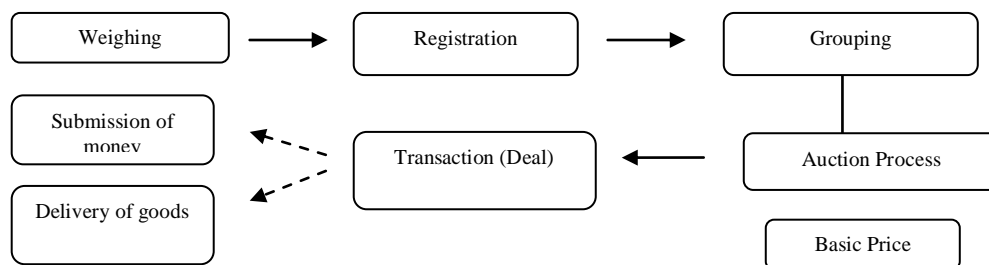


Figure2. Tarutung and Siborong Borong auction market mechanism.

The Impact of the Red Chili Auction Market on Farmers

The auction market conceptually is the organizer of agro commodity trading transactions as an effort to find open, transparent and best prices, provide value

protection, and increase trade efficiency. The drafter has been described in the provisions for the implementation of the forward auction market. Pricing is determined as a consequence of meeting supply and demand forces at the market

price balance point. Through complete information both about price, quality and quantity, transaction costs are considered zero and the market is an efficient solution. Likewise in terms of price discovery, there is a process of understanding between the seller and the buyer at the agreed market price level that allows the transaction to occur (Kuntadi and Jamhari, 2012).

The impact of the auction market in the economy is expected to contribute meaningfully to the economy. The role of the auction market provides certainty in the supply of commodities, increases transparency in price formation, procures price information sources, broadens food access, improves product quality and exchange rates, strengthens the bargaining position of farmers, creates fair and efficient market prices and fosters programs to overcome global markets (Kurniawan and Epakartika, 2004).

The auction market institution if managed properly can provide very high benefits for red chili farmers. Market success is not solely determined by the availability of goods and buyers, but also the organization and marketing of the organization itself. If it can be well organized, the auction market can be the main weapon in suppressing the fluctuations in the price of red chili which is often a scourge for farmers (Patriansya et al., 2015). The results of the study indicate that the existence of the red chili auction market in North Tapanuli Regency has had an impact covering:

1. The auction market is able to maintain the stability of the price of red chili because the Regional Government has issued a Regional Regulation which is related to the lower limit of the price of chilli peppers.
2. Shorter marketing chains. Farmers directly sell the results of red chili to large traders in the auction market, not to village collectors anymore.
3. The selling price of red chili on the auction market is higher than the price

of red chili which is not in the auction market.

4. The occurrence of the speed of trade transactions. The auction market is able to accelerate the processing time of trading transactions in large volumes. The auction market lasts for 3 hours / frequency with the average sales volume in each market execution amounting to 3,000 kg (3 tons).

Nugroho (2018) said that the success of farming and marketing of chili is due to the existence of an auction market that is able to guarantee the sale of products at a price that is profitable for farmers and traders. So one of the things that needs to be developed by the auction market is the need for certainty of information on the availability of chili stock from farmers so that it can be used as a solution to reduce the price fluctuations of chili. The auction market needs to expand the network built by farmer groups so that there is continuity of chili stock throughout the year.

Difference between Red Chili Selling Prices that occur inside and outside the Auction Market

The average selling price of red chili per kilogram that occurs in the auction market is Rp 28,378/ Kg, while the average selling price of red chili per kilogram that occurs outside the auction market is Rp 26.063 / Kg. To find out the difference in the average selling price of red chili money occurs inside and outside the auction market, the average difference test of 2 samples that are not paired (Independent Sample 2 Test) is used, the results of which can be seen in the table 1 below:

Table 1. Average Difference Test Results of Red Chili Prices / Kg inside and outside the Auction Market

Description	Result
Mean Inside	Rp 28,387/Kg
Mean Outside	Rp 26,063/Kg
Levene's Test for Equality of Variances	
F	7.738
Sig	0.007
T Tes for Equality of Means	
t	5.251
Sig	0.000
Mean Difference	Rp 2,315

Based on the results of the analysis of different test average 2 samples that are not mutually paired (Independent Sample 2 Test) shows that the significance value is 0,000 (<0.05) which means there is a significant difference between the price of red chili per kilogram that occurs inside and outside auction market. This means that the price of red chili per kilogram that occurs in the auction market is higher than the price that occurs outside the auction market.

The Effectiveness of the Red Chili Auction Market

Effectiveness means the occurrence of effects that can bring good results. Effectiveness or effectiveness is usually related to the comparison between the level of achievement of goals and plans that have been prepared previously. Effectiveness is the achievement of goals or plans that have been prepared beforehand. According to Monoarfa (2012), the criteria or measures of effectiveness can be assessed from productivity or output, organizational flexibility and form of success in adjusting to changes within and outside the organization, and from the presence or absence of tensions within the organization or obstacles to conflict among parts of the organization.

The concept of effectiveness has different meanings and different criteria depending on the terms of reference used and the situation and condition of the area under study. In this study, the effectiveness of auction market institutions in Siborong-borong and Tarutung Sub-Districts of North Tapanuli Regency was measured using 3 components, namely institution output, institutional flexibility, and the absence of tensions in institutions.

Based on the results of the study, it can be seen that the effectiveness of the institution's output shows that the resulting output is in the effective category (81, 55%). Institution output seen from the aspect of quality and quantity. The auction market has been able to provide guarantees to absorb all the farmers' produce during the

auction process. In addition, the selling price obtained by farmers is higher by Rp. 2,000 - Rp. 4,000 / kg compared to prices outside the auction market. Si Borong-borong and Tarutung auction markets already have 10-15 traders who always participate so that all products can be sold. These traders are big traders who distribute red chillies outside the province. Different conditions occur in Soropadan Market, Central Java, which shows that the auction market mechanism that is carried out is still dominated by traders, so the increase in the price of red chili does not affect farmers (Winarsih et al., 2010).

The amount of profit for farmers has an effectiveness of 79.33%, most farmers consider the auction market to be effective because of its close location, easy implementation, relatively high prices and relatively low cuts so that profits are greater. But there are also farmers who feel the profits are still not optimal because sometimes they have not been able to cover the costs incurred during production. However, farmers are aware that if they are sold through middlemen (traders), they will be even more disadvantaged. The indicator of guaranteed distribution (sold) of all production products has an effectiveness level of 86.33%, the auction market already has wide access. In each auction there are usually 5 to 8 traders who participate so that the entire production of red chili is almost always sold. The last indicator, the indicator of the feasibility of the selling price of red chili has an effectiveness level of 79%, although the price of chili sometimes decreases but the chili sold through the auction market has a higher selling price than through direct traders and eliminates the monopoly of the trader. In addition, the auction market is believed to be able to keep prices from being mocked by traders.

The flexibility of auction market institutions is considered by farmers to be unable to run effectively. This is indicated by the effectiveness of 65. 25%. The lack of effectiveness of the auction market is seen

from the institutional flexibility caused by several things:

1. The frequency of the auction market is only carried out once a week so that there are often differences between harvest times and the auction market.
2. The distance is far enough from the production center to the place where the auction market is carried out and the weather sometimes prevents farmers from carrying their produce. Most farmers (93.75%) farmers bring the results of red chilli production using motorbikes so that this is constrained in the production loads that can be transported.
3. Justice Bid Committee in rotating the auction location. The location of the auction market is only in the same 2 places. The auction site has never changed or moved.

The flexibility of the institution is explained through indicators of frequency suitability and timing of auctions on the availability of results, feasibility of selling prices despite experiencing price changes, justice for farmers in rotating auction locations and ability to solve problems when there are traders who are lost to payment. The indicator of frequency suitability and timing of auction implementation on the availability of results has an effectiveness level of 85.33%. When it is not the harvest season or during the harvest season, the auction market is always open to accommodate all the farmers' produce. This ensures that all farmers' produce can be channeled and the need for traders of red chili which is not small can be fulfilled. The indicator of the feasibility of selling prices despite experiencing price changes has a effectiveness level of 77%. The selling price of red chili is always changing according to the quality of chili and market conditions. But the auction market can still adjust these conditions so that the price decision is not too detrimental to farmers. One of the concrete actions, namely the auction market in Siborong-borong and the Tarutung

auction market, has made the rules for the basic price of red chili which requires traders to auction at prices above the basic price. This is done in anticipation of falling prices too. Equity indicators for farmers in rotating auction locations have an effectiveness of 5.33%. This shows that the auction market is not flexible in terms of the auction market rotation. The auction process is carried out at one location only to facilitate the administration and the market to be able to provide sufficient amounts of red chili. The indicator of the ability to solve problems when there are traders who are lost to payment has an effectiveness of 93.33%. These results indicate that the auction market is very flexible in dealing with payment problems.

The presence or absence of tension in the auction market shows the highest level of effectiveness compared to the other two indicators (87%). This indicator is explained through indicators of relations between farmers, relations between farmers and traders, relationships between farmers, traders and auction committees as well as indicators of decisions taken in the implementation of the auction market. Farmers assume that there has never been any tension that occurred during the auction market which caused prolonged conflict. All differences can be resolved at the time of the auction process by the auction committee.

The indicator of good relations between farmers has an effectiveness level of 88.67%, family relations between farmers are so thick that they live in harmony together and rarely conflict with fellow farmers in the group. The indicator of good relations between farmers and auction market managers has an effectiveness of 87.33%, this high number is because the auction market is managed by local farmer groups with the management of the members of the farmer group itself so that family friendship, openness, and farmers' trust is greater. Indicators of feeling like the performance of auction market managers have an effectiveness of 84.33%, most

farmers consider the auction market management to have worked well, diligently, firmly, discipline, and openly. Indicators of farmers' approval of the decisions taken by the management have an effectiveness rate of 87.33%, generally farmers agree with the decisions taken by the management because usually decisions are the result of collective deliberation. The

last indicator, namely the fairness of the distribution of sales has an effectiveness of 87.33%, this figure explains that generally farmers think that the distribution of proceeds is fair.

The effectiveness of the red chili auction market institutions in Siborong-borong and Tarutung Districts can be seen in Table 2.

Table 2. Effectiveness of the Red Chili Auction Market Institution

No	Indicator	Score Interval	Average Score	Level of Effectiveness (%)
Institution Output				
1.	Big profits for farmers	0-3	2.38	79.33
2.	Guaranteed distribution of all products	0-3	2.59	86.33
3.	Feasibility of selling prices for red chili	0-3	2.37	79
Total		0-9	7.34	81.55
Institutional flexibility / adaptability flexibility				
1.	Conformity of frequency and timing of auction implementation to the availability of results	0-3	2.56	85.33
2.	The feasibility of selling prices despite experiencing price changes	0-3	2.31	77
3.	Justice for farmers in rotating the auction location	0-3	0.16	5.33
4.	The ability to solve problems when a trader is lost to payment	0-3	2.8	93.33
Total		0-12	7.83	65.25
There is no tension in the Institution				
1.	Good relations between farmers	0-3	2.66	88.67
2.	Good relations between farmers and the management of the auction market	0-3	2.62	87.33
3.	Feeling like the performance of the auction market management	0-3	2.53	84.33
4.	Member approval of decisions taken by the management	0-3	2.62	87.33
5.	Fair distribution of sales proceeds	0-3	2.62	87.33
Total		0-15	13.05	87
Total		0-36	28.22	77.93

Source: Primary Data Processed

Based on Table 2 below, it can be seen that a total of 27 people (84.37%) member farmers assessed the red chili auction market institution to have a high effectiveness with a score of 24 to 36. While 3 people (9.37%) assessed the chili auction market institution red has moderate effectiveness with a score of 12 to 23.

Then a number of 2 (6.25%) member farmers considered the red chili auction market institution to have high effectiveness with a score of 0 to 11. This means that most farmers considered the red chili auction market institutions to have high effectiveness and only a few farmers thought that the auction market is not effective. The highest score of the three components is obtained from the institutional output component, which is 81.22%, followed by the presence or absence of tension in the institution which is

77.47%, and the flexibility component of the institution at 65.41%.

Table 2. Distribution of Effectiveness of the Red Chili Auction Market Institution

No.	Category	Total (Person)	Percentage (%)
1.	Low (0-11)	2	6.25
2.	Medium (12-23)	3	9.37
3.	High(24-36)	27	84.37
Jumlah		32	100

Source: Primary Data Processed

CONCLUSION

The implementation of the auction market in Siborong-borong and Tarutung, North Tapanuli Regency has been able to play a role in shortening the marketing chain that occurred. The existence of the auction market provides benefits to farmers, including higher prices, guaranteed production and speed in the transaction process. The auction market involves farmers, traders, auction committees consisting of North Tapanuli Government

Corporation, Agriculture Service, Trade Service, and regional agricultural extension agents. The level of effectiveness of the red chili auction market is in the effective category. (77.93%). This level of effectiveness shows the positive impact of the existence of the auction market. However, the frequency and location of the limited auction market is one of the things that needs to be considered.

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