

## Analysis Supply Chain of Chili Commodities to Support Regional Food Security in South Konawe Regency

Irmawatty Paula Tamburaka<sup>1</sup>, Suarna Samai<sup>2</sup>, Achmad Bayu Maulana<sup>1</sup>

<sup>1</sup>Development Economics Study Faculty of Economics and Business Halu Oleo University, Indonesia

<sup>2</sup>Biology Education Study Program, Halu Oleo University, Indonesia

**\*Corresponding Author**, Email: [irmatamburaka19@gmail.com](mailto:irmatamburaka19@gmail.com)

### Abstract

This study aims to analyze the structure and effectiveness of the chili commodity supply chain in South Konawe Regency in order to support regional food security. The research method used is qualitative with a descriptive approach, through observation, in-depth interviews, and literature review. The sampling method was purposive sampling in three sub-districts: Ranomeeto Barat Sub-district (10 farmers), Konda Sub-district (10 farmers), and Landono Sub-district (10 farmers). Additionally, from each of these sub-districts, 2 collecting traders, 2 retail traders, and 5 consumers were also included. The results showed that the distribution pattern of the chili commodities was the distribution pattern I, II, III, and IV, respectively: I = farmer – collector – wholesaler – retailer – consumer; II = farmer – wholesaler – retailer – consumer, III = farmer – wholesaler – consumer, IV = farmer – consumer. The highest marketing margin for retailers with distribution pattern I is IDR8000, the lowest marketing margin is for collectors with distribution pattern I, and wholesalers for distribution pattern I, II, and III are IDR5000 each. The highest farmer's share received by farmers in the second distribution pattern is 95.4 percent. This is due to marketing the commodity of chili without going through collectors, so that farmers get bigger profits. Each marketing agency does not use workers outside the family because the cost of labor in the research area is relatively high; each marketing agency tends to employ family members. The price of chili in the market varies from IDR39,500/kg to IDR45,000/kg.

**Keywords:** *Farmer's Share, Marketing Margin, Supply Chain.*

### INTRODUCTION

The agricultural sector is one of the most important resources for Indonesia, because in addition to being a source of livelihood in the form of food, it also plays a very important role as a source of income to boost the country's economy through industrial raw materials. The horticulture subsector is a subsector with a diverse range of commodities and is an important sector that is directly needed by the community. Chili is one of the strategic commodities designated as a staple food item in addition to rice, corn, sugar, and chicken eggs. Chili is a commodity that requires a quite long supply chain system in its marketing. (Pujawan, 2014) A supply chain is dynamic in nature, yet it involves three commodities and is an important sector that is directly needed by the community. Chili is one of the strategic commodities designated as a staple food item in addition to rice, corn, sugar, and chicken eggs. Chili is a commodity that requires a quite long supply chain system in its marketing. In addition, Chopra and Meindl also explain that the main objective of any supply chain is to fulfill customer needs and generate a profit.

The chili commodities hold an important position in the food menu, and although only a small amount is

needed, just 3.90 kg/capita/year, almost all Indonesian dishes use chili (Pusdatin, 2016).

Marketing margin is often used as an indicator of marketing efficiency. The size of the marketing margin in various marketing distributions can differ because it depends on the length of the marketing distribution chain, the activities that have been carried out, and the profit expected by each marketing institution involved (Elly Jumiati, Dwidjono Hadi Darwanto, 2013). A marketing system can be said to be efficient if all marketing activities, which include the collection of commodities at the farmer level, commodity packaging, transportation, processing, and distribution, are carried out at a minimum cost (Abdelati & Abdelwali, 2024; Sudidayana, 2015). Marketing margin distribution is the marketing margin, which is the difference between what is paid by the consumer and the price received by the farmer.

(Pr-Pf)

The calculation of the marketing margin is obtained by subtracting the purchase price from the selling price at the member level. According to Sutarno (2014), the margin of the first-level institution is obtained from the formula: the first-level institution's

selling price minus the first-level institution's purchase price.

Food security is a strategic issue, and chili commodities play an important role in Indonesia's economic and food stability. Fluctuations in chili prices are often a problem, influenced by a suboptimal supply chain. Konawe Selatan Regency, as a food buffer region in Southeast Sulawesi Province, has great potential in chili production. Chili is one of the horticultural commodities that has an important role in the community's economy, both as a source of income for farmers and as a basic daily consumption item. Additionally, the price of chilies, which often experiences sharp fluctuations in the market, can significantly affect the inflation rate, making the stability of supply and prices an important issue for both central and local governments.

The province of Southeast Sulawesi is rich in agricultural resources, one of which is South Konawe Regency, a production center for chili. South Konawe Regency is one of the regencies in Southeast Sulawesi Province with a large potential of land resources, and it has high cayenne chili production. Data from BPS Sultra (2023) shows that the harvest area is 354 hectares, production is 15,016 quintals, and the yield is 36.77 quintals per hectare. The production of chili peppers will have a broad impact on the economic development of agricultural products, as the demand for this commodity is increasing. However, the existing problems in the field do not necessarily have a positive impact on farmers because the price received by cayenne chili farmers is still low. The fluctuation in the price of cayenne chili is a result of an inefficient marketing management system. This study aims to analyze the structure and effectiveness of the cayenne chili commodity supply chain in South Konawe Regency to support regional food security.

## METHODS

The type of Research is Qualitative with a descriptive approach. Research Location: Konawe Selatan Regency, with a focus on chili production centers. Data types and sources Primary Data is Interviews with farmers, collecting traders, retail traders, distributors, and related agencies (Agriculture Office, Food Security Office). Field observation in production centers and markets. Secondary Data are Literature review related to the supply chain and food security, statistical data from local governments, and

scientific journals. And data analysis Methods Using supply chain flow analysis and qualitative descriptive analysis to formulate improvement strategies.

## RESULTS AND DISCUSSION

### Supply Chain Structure

A supply chain is a network of companies that cooperate to deliver a desired product to the end consumer (Pujawan in Pambudi, 2019). The market share for chili sales in South Konawe Regency is divided into several market segments, including the local market, which consists of markets within the South Konawe Regency area, and the regional market. The regional markets are the main market for selling chili in the South Konawe Regency. Besides the great demand and very high prices, it also becomes an attraction for them to be able to sell their chili to the Baruga market, which is in Kendari city. For both local and regional market sales, the marketing system for bird's eye chili in Konawe Selatan Regency involves several marketing institutions or supply chain members so that all harvested crops can be well-distributed and the farmers' chili harvest can be absorbed by the market.

The marketing of chilli commodity from South Konawe Regency to Kendari City is a marketing channel involving several marketing institutions. These institutions are producers (farmers), collecting traders, wholesalers (Baruga market), retailers, and consumers:

1. Farmers (Producers)
2. Collecting Traders / Collectors
3. Wholesalers
4. Retailers
5. Consumers

Please refer to the image below for a clearer understanding of the marketing distribution of chilli commodities.



### Marketing Margin and Farmer's Share of the Chili Commodity

The marketing margin is the difference between the price paid to consumers and the price paid to producers, in this case, farmers. The marketing margin for chilli from South Konawe to Kendari City can be seen in the table below:

Description	Distribution Pattern I (IDR/kg)	Distribution Pattern II (IDR/kg)	Distribution Pattern III (IDR/kg)	Distribution Pattern IV (IDR/kg)	Percentage (%)
<b>Farmer's Number of chili sold</b>	310	280	270	235	
<b>Selling Price</b>	27.500	30.500	30.500	35.500	
<b>Transportation Costs</b>		200.000	200.000	200.000	
<b>Packing Costs</b>		70.000	70.000	70.000	
<b>Collector Traders</b>					
Purchase Price	27.500	-	-	-	
Selling Price	32.500				
a). Marketing Cost					
1. Transportation Cost	70	-	-		0,02
2. Packing Cost	100				0,03
b). Profit	4.830	-	-		
c). Marketing Margin	5.000				
d) Farmer's Share (%)	84,6				
<b>Wholesaler</b>					
Purchase Price	32.500	30.500	30.500		
Selling Price	37.500	35.500	35.500		
a). Marketing Cost					
Retribution	1.500	1.500	1.500	-	0,046 0,049
b). Profit	3.500	3.500	3.500	-	
c). Marketing Margin	5.000	5.000	5.000		
d) Farmer's Share (%)	86,6	85,9	85,9		
<b>Retailers</b>					
Purchase Price	37.500	35.500	-	-	
Selling Price	42.000	41.500			
a). Marketing Cost					
Local transportation Cost	5.000	5.000	-	-	0,13
b). Profit	3.000	1.000	-	-	0,14
c). Marketing Margin	8.000	6.000			
d) Farmer's Share (%)	89,2	85,5			
<b>Consumer</b>					
Purchase Price	45.000	43.500	40.500	39.500	
Farmer's Share (%)	61,1	95,4	87,6	89,8	

Source: Primary data is processed (2024)

Table 1 above explains the marketing margin and farmer's share of each distribution channel. In distribution channel I, the selling price at the farmer level is IDR27,500/kg, while the buying price at the collector trader level is IDR32,500 per kg. The collector trader incurs Marketing expenses amounting to IDR170, which consist of packaging costs and other expenses.

The analysis results show a marketing margin of IDR5000, profit is IDR4,830, and the farmer's share is 84,6 percent. At the wholesale level, the purchase price is IDR 32,500/kg, selling price is IDR37,500/kg, A retribution fee of IDR1500 was issued, or 0,046 percent marketing margin, and the profit is IDR3,500, farmer's share is 86,6 percent. At the retail merchant level, the purchase price is IDR37,500 per kg, the selling price is IDR42,000 per kg, the marketing margin is IDR8000, the local transportation cost is IDR5000 or 013 percent, profit is 3000, and the farmer's share is 89,2 percent. Consumer purchase price is IDR45000/kg, and the farmer's share is 61.2 percent.

In the distribution pattern II The selling price at the farmer level is IDR 30,500 per kg. Direct marketing to wholesale farmers, incurring packaging costs of IDR7000 (Purchase of plastic sacks) and transportation costs of IDR 200,000 (pickup/flatbed truck rental). The wholesale price at the distributor level is IDR35,500. The wholesale trader paid a retribution fee of IDR1500 or 0,14 percent, a profit of IDR3500, and the farmer's share of 95,4 percent.

In the distribution pattern III, the selling price at the farmer level is IDR 30,500 per kg. The farmer sells directly to the wholesale merchant. Incurred packing costs of IDR70,000 (for the purchase of plastic sacks) and transportation costs of IDR200,000 (Pickup truck rental). The wholesale price is IDR35,500/kg. The wholesale trader pays a retribution fee of IDR1500 or 0.049 percent, a marketing margin of IDR5000, profit of IDR3500, Consumer purchase price of IDR40,500 per kg, and the farmer's share of 87,6 percent. (Puspitawati & Wardhani, 2013) found that the longer the marketing channel, the less efficient it is. This is because the costs incurred are higher, and the profits taken by each marketing agency increase the price of chili.

In the distribution pattern IV, the selling price at the farmer is IDR 35,500 per kg. The amount of cayenne chili sold is smaller, namely 235 kg, and farmers deliver directly to consumers who order

directly, including catering businesses, restaurants, and hotels. Farmer incur packaging costs of IDR70,000 (purchase of plastic) and transportation cost IDR 200.000, farmer's share of 89,8 percent. In line with research (Rahayu Nangsi Paramata et al., 2023), different marketing institutions, namely farmers, collectors, inter city traders, all carry out exchange functions (demand and supply) as well as commodity price information functions.

The results of this study show that, on average, marketing institutions do not use non-family labor that must be paid. The wages for labor, both in South Konawe Regency and Kendari City, are considered high. This leads to every marketing institution, whether they are collecting traders, wholesalers, or retailers, not using non-family labor, and instead relying on the help of their spouses and family members, who are not paid wages. The price of cayenne chili commodities at the consumer level varies, ranging from IDR39,500/kg to IDR45,000/kg.

## CONCLUSION

The research findings identify the supply chain flow, the actors involved, and the existing problems and opportunities. The results of this study show that the role of marketing institutions, from farmers to traders, collecting traders and wholesalers, and retailers, optimizing the chili supply chain, can improve price stability, distribution, and chili availability, which will ultimately strengthen food security in South Konawe. Based on the results of the study, there is a suggestion that can become a consideration, namely, on the flow of information expected by retailers. The end consumer is more active in exchanging related information, such as chili requests red, which can increase the performance of the supply chain.

## REFERENCES

Abdelati, M.A, & Abdelwali, H.A. (2024). Optimizing Simple Exponential Smoothing for Time Series Forecasting in Supply Chain Management. *Indonesian Journal of Innovation and Applied Sciences (IJIAS)*, 4(3), 247-256.

Atikatul, Fitriyah, Ni Wayan Putu Artini dan Putu Udayani Wijayanti. (2019). *Saluran Pemasaran Cabai Rawit di Kecamatan Puger Kabupaten Jember Provinsi Jawa Timur. E-Jurnal Agribisnis dan Agrowisata*, 8 (1).

Badan Pusat Statistik Provinsi Sulawesi Tenggara. 2023. Kendari

Dirjen Hortikultura. (2019). *Rencana Strategis Direktorat Jenderal Hortikultura Tahun 2015-2022*.

I Komang. H. Sudiadnyana. (2015). *Analisis Efisiensi Saluran Pemasaran Komoditas Anggur di Desa Banyupoh Kecamatan Gerokgak Tahun 2014*. 5(1) Tahun: 2015

Kotler & Armstrong. (2012). *Prinsip-prinsip Pemasaran* (Edisi 12). Erlangga.

Mursid, M. (2010). *Manajemen Pemasaran*. Bumi Askara. Jakarta

Ni Nengah Yastini dan Ferdinandus Lancur. 2019. Saluran Pemasaran Cabai Rawit (*Capsicum Frutescens*.L) di Desa Belang Turi, Kecamatan Ruteng, Kabupaten Manggarai Provinsi Nusa Tenggara Timur (NTT). *Jurnal dwijenAGRO*, 9 (2) November 2019.

Elly Jumiati, Dwidjono Hadi Darwanto, S. H. & M. (2013). Analisis “alura Pe asara ... Elly Jumiati, Darwanto, Hartono, dan Masyhuri. *Agrifor*, XII(1), 1–10.

Pujawan, M. (2014). Supply Chain Management Supply Chain Management. *2degrees Sustainability Essentials*, XI(2), 1–6.

Puspitawati, I. R., & Wardhani, R. M. (2013). Analisa efisiensi pemasaran komoditi cabai (*Capsicum annum* L.) pada beberapa saluran pemasaran di kota madiun. *Agritek*, 14(1), 72–86.

Rahayu Nangsi Paramata, Asda Rauf, & Ria Indriani. (2023). Analysis of Hot Pepper (*Capsicum frutescens* L.) Vertical Market Integration in Gorontalo Province. *World Journal of Advanced Research and Reviews*, 18(2), 1158–1165.

Sudiadnyana, I. K. H. (2015). Analisis Efisiensi Saluran Pemasaran Komoditas Anggur di desa Banyupoh Kecamatan Gerokgak Tahun 2014. *Pendidikan Ekonomi Undiskha*, 5(1), 2–10.

Pusat Data dan Sistem Informasi Pertanian. 2016. *Outlook Komoditas Pertanian subsektor Hortikultura*. Jakarta

Setiadi. 2011. *Budidaya Cabai*. PT. Penebar Swadaya. Jakarta.