

## Research Article

# Analysis of Chili Inventory at Vegetable Traders at Karawang New Market

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**Abstract:** This study aims to analyze the source of supply, quantity of inventory, price, quality, and handling of chili inventory at vegetable traders in Pasar Baru Karawang. The research method used is descriptive qualitative with random sampling technique on three traders. The results of the study indicate that the main source of supply comes from Cikopo, Cibitung and Bandung, with daily orders via WhatsApp and cash or transfer payments. The amount of chili inventory fluctuates significantly, especially during the big day period, Mr. Edi's inventory increases to 50-60 kg when demand is high. Normal stock ranges from 30-40 kg per day. Mr. Deni increases his chili inventory to 70 kg when demand is high, with a normal stock of 20-40 kg per day, while Mr. Dendi's inventory increases to 230 kg when demand is high with a normal stock of 150-160 kg per day. Chili prices fluctuate due to weather and demand at certain moments such as Eid al-Fitr, Eid al-Adha, Christmas and New Year. The highest price fluctuation occurs in January with a peak price of IDR 120,000/kg due to the new year and high rainfall. While the lowest price occurred in November at Rp 20,000/kg due to declining consumer demand and poor chili quality due to high rainfall. Traders implement the FIFO system to maintain quality and implement *safety stock* and *re-orders* to avoid stock shortages. The conclusion shows that efficient inventory management is very important to deal with market fluctuations.

**Keywords:** Chili Stock, Vegetable Traders, Chili Prices, Traditional Markets

## 1. INTRODUCTION

The presence and development of traditional markets in each region is very important because it is expected to encourage economic growth in the region. In general, in the classical view, people distinguish two types of markets, namely traditional markets and modern markets. These two types of markets have different characteristics, both in terms of buildings, sales locations, and transaction systems applied (Santi Pertiwi Hari Sandi & Mumun Maemunah, 2019). The market functions as a place of interaction between traders who need consumers to sell their merchandise, and consumers who are looking for the products or services they need. The market is part of the social life of society whose growth and development are adjusted to the customs, norms and behavior in a region or area, which then the market becomes a means of economic activity that supports and facilitates the needs of the surrounding community and the surrounding areas adjacent to the location. (Sumiati et al., 2023)

Vegetable traders play a strategic role in the fresh food distribution chain, especially in traditional markets which are the main source of people's daily needs. The existence of vegetable traders is a link between farmers as producers and end consumers, both households and culinary business actors. In their activities, vegetable traders face challenges such as price fluctuations, variations in product quality, and the need for efficient stock management. One of the vegetable commodities that has high demand

and tends to fluctuate is chili. (Astrada et al., 2024)

Chilies are one of the vegetable commodities that play an important role in the domestic market or and abroad. Total chili production (red chili and cayenne pepper) in Indonesia in 2023 is 3.11 million tons. With this high production, Indonesia has good market potential in world trade. Chili is a food ingredient that can be consumed at any time and cannot be substituted , so chili will continue to be needed in increasing quantities along with population growth, the national economy and the development of the national food industry. Even approaching major religious holidays, such as Eid al-Fitr, Eid al-Adha, Christmas and New Year, public demand for chili commodities tends to increase.(Pusat Data dan Sistem Informasi Pertanian Kementerian Pertanian, 2024)

The increasing demand for chili, especially around religious holidays, shows how important chili is in the consumption patterns of the Indonesian people. Moments such as Eid al-Fitr, Eid al-Adha, and Christmas are peak times for chili consumption, which affect price fluctuations and distribution. With this trend, chili supply chain management becomes very important, so that supply can meet high demand without disrupting price stability in the market.

In addition, population growth and national economy will further increase the demand for chili, which further emphasizes the need for increased production capacity and distribution efficiency of chili, both in domestic and global markets. Therefore, policies that support the sustainability of chili production and the improvement of market infrastructure are crucial in supporting food security and chili price stability in Indonesia.

This can be seen from the development of national prices of chili commodities which experience price increases and decreases every year. More details can be seen in the picture below.



**Figure 1**Development of National Prices of Chili Commodities

Source : (Pusat Data Dan Sitem Informasi Kementerian Perdagangan, 2024.)

Figure 1.1 explains that the price of cayenne pepper fluctuated significantly throughout the year. shows the price fluctuation of cayenne pepper and curly pepper throughout the year. The price of cayenne pepper fell 11.9% from IDR 64,400 in January to IDR 56,600 in February, then rose 4.4% in March. After the decline in April-May, the price rose again in May-June, reaching a peak of IDR 69,500 in August. The price fell drastically by 23.5% in August-September and continued to decline until November, before rising 5.2% to IDR 46,800 in December. For curly pepper, the price rose 8.3% in February, fell 17.2% in June, and fell further to IDR 32,300 in November, before recovering 16.4% to IDR 37,600 in December.

Significant fluctuations in chili prices are influenced by factors such as harvest season, distribution, and consumer demand. Strategic markets, such as Pasar Baru Karawang, have become economic centers with high transactions because they are able to reach consumers from various regions. This market not only serves the surrounding community, but also attracts visitors from surrounding sub-districts and regencies. At the front of the market, there are stalls selling clothing and household goods, while basic necessities such as meat, vegetables, and fruit can be found in the middle area of the market (Joko Suprianto, 2020).

Traders in order to continue the sales process, they need to determine the right inventory. Without adequate inventory, they risk not being able to meet consumer demand. Traditional market traders face challenges in managing inventory, especially due to price fluctuations and unstable consumer demand. This also happened in Pasar Baru Karawang, where Pasar Baru Karawang is a market that operates 24 hours because it is in the city center (Supriyanto, 2020). Based on the results of observations of 3 vegetable traders, it was stated that the source of chili supplies came from outside the Karawang area, namely from the Cikopo, Cibitung and Bandung areas. Currently, the number of vegetable traders selling chilies at Pasar Baru Karawang is 40 traders.

Research conducted by (Kansil et al., 2021) entitled "Supply Chain Analysis of Cayenne Pepper Commodity at Bersehati Market, Manado City during the Covid-19 Pandemic" shows that the COVID-19 Pandemic disrupts the cayenne pepper supply chain, especially at the distribution stage. Traders face obstacles such as decreased supply volume, limited transportation, and increased operational costs. This study recommends diversifying supply sources to reduce risk. Meanwhile, research conducted by (Ridwansyah et al., 2022) entitled "Supply chain analysis and value chain of chili commodities in Jambi Province towards inter-island trade and export" shows that the chili supply chain in Jambi Province is affected by significant price fluctuations, which have an impact on local inflation. To improve supply chain efficiency, collaboration between farmers, traders, and local governments is needed in managing distribution and prices.

In contrast to the aforementioned studies that focus more on general and large-scale supply chain aspects, there has been no study that specifically discusses chili supply chain management in West Java, especially in Pasar Baru Karawang, which is a traditional market with high price fluctuation dynamics and demand during religious moments. In addition, there has been no study that specifically discusses chili inventory management by vegetable traders in traditional markets, especially in the context of adapting to fluctuating demand and unstable supply conditions.

## **2. LITERATURE REVIEW**

### **Financial management**

Financial management is all company activities related to how to obtain funds and manage assets according to the company's overall goals (Hasan et al., 2021). According to Sartono, Financial management is everything related to the allocation of funds in various forms of investment effectively, and also efforts to raise funds to finance the investment efficiently (Sopi & Tossy Aryanto, 2023). According to Sutrisno, Financial management includes all company activities aimed at obtaining company funds at the lowest possible cost and trying to use and allocate the funds efficiently (Sarianti et al., 2023).

### **Inventory Management**

Inventory management is a capability possessed by a company in arranging and managing every need in the form of raw materials, semi-finished goods, or finished goods so that the product is ready, both when the market conditions are stable and when the market conditions are fluctuating (Ariska, 2022). Inventory management is very important because the amount of inventory determines or affects the smooth operation, efficiency and effectiveness of the production process and the quality of products produced by the company. The amount or level of inventory needed varies from company to company depending on the volume of production, type of equipment and process (Nurchayawati et al., 2023). Inventory Management Indicators According to (Yafi et al., 2024): Safety Stock, Anticipation Stock, Inventory in Shipping.

### **Supply**

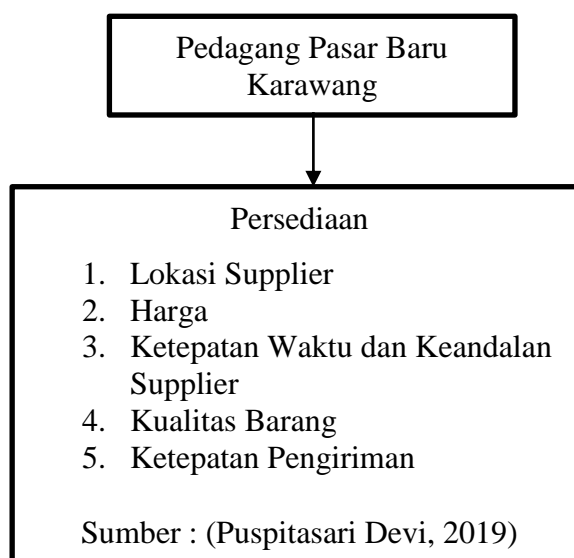
Inventory is one of the components that plays an important role in a company. Every company usually has inventory to be able to carry out its company activities (Sulistiyowati & Huda, 2021). Inventory is an activity that is *guided* by the availability of goods for the needs and smoothness of production in a business, business, or company (Susanti, 2024). According to Jacobs and Chase, (Setiadi, 2024) inventory is the supply of resources and goods used by a company in carrying out its production and operational activities.

### Factors Affecting Inventory

Factors that affect inventory according to (Puspitasari Devi, 2019) the location of the supplier close to the market are the main considerations, because they can reduce transportation costs and facilitate access, which ultimately increases profits. In addition, prices also affect, where traders tend to choose suppliers who offer lower prices to maintain profits. The timeliness and reliability of suppliers are also very important, because late delivery can cause losses due to unsold or damaged products. Then, the quality of the goods is also a determining factor, because goods with good quality are more in demand by buyers, so traders will choose suppliers who can provide products with high quality standards.

### 3. FRAMEWORK

The following is a framework of thought based on the results of the background and objectives of the research, so the framework of thought for this research is as follows:



**Figure 2** Research Paradigm

Source: Author (2024), processed from (Puspitasari Devi, 2019)

### 4. METHOD STUDY

The research method used in this study is descriptive qualitative, the sampling technique uses the *random sampling method*, the population of vegetable traders in Pasar Baru Karawang is 40 vegetable traders. The determination is that traders who are willing to be interviewed and have represented one or two of the same market traders. Based on this determination, 3 vegetable traders will be used as samples, this is because out of 38 vegetable traders have the same supplier location, namely from Cikopo, while 2 traders have more than 1 supplier, namely from Cikopo and Cibitung. And 1 more trader from Cikopo and Bandung.

### 5. RESEARCH RESULTS AND DISCUSSION

#### Research result

Before presenting the research results, this section will first explain the profiles of the vegetable traders who were respondents in the study. This information is important to provide an initial overview of the business background, trading experience, operational systems, and characteristics of each trader.

#### 1. Mr. Edi

The following is an interview with Mrs. Eni, a vegetable trader at Pasar Baru Karawang.

Mr. Edi, a 41-year-old vegetable entrepreneur domiciled in Puseurjaya, has been running a vegetable business in Pasar Baru Karawang since 2008, inherited from his parents. This business is open 24 hours, managed together with his wife and siblings, Mrs. Eni and Mr. Asep, with a rotating system, namely from 05.00 to 17.00 and from 17.00 to 05.00. However, during celebrations such as Eid al-Fitr and Eid al-Adha, Mr.

Edi still opens his business after performing Eid al-Fitr and Eid al-Adha prayers, namely at 09.00

## 2. Mr. Deni

The following is an interview with Mr. Taufik, a vegetable trader at Pasar Baru Karawang.

Mr. Deni, a 38-year-old vegetable entrepreneur domiciled in the Karaba Housing Complex, continued his parents' business in 2019, his parents opened their business in 2015, in 2019. Mr. Deni continues his business until now together with his brother, Mr. Taufik. Mr. Deni has 3 workers to help his business. The operating hours of his business are from 05.00 to 24.00. Mr. Deni and Mr. Taufik guard with a rotating system. Mr. Taufik is on guard at opening hours from 05.00 to 17.00, while Mr. Deni is on guard from 17.00 to closing at 24.00. For workers who help from opening to closing, there is no rotation system. During the Eid al-Fitr celebration, Mr. Deni closes for 1 day, but on Eid al-Adha. Mr. Deni opens his business after performing the Eid al-Adha prayer first, which is at 09.30.

## 3. Mr. Dendi

The following is an interview with Mr. Dendi, a vegetable trader at Pasar Baru Karawang.

Mr. Dendi, 32 years old, is a vegetable entrepreneur at Pasar Baru Karawang who lives in East Telukjambe. Mr. Dendi has been running his business for 7 years and has 2 stalls. His business operating hours are 12 hours starting from 18.00 to 08.00. Mr. Dendi looks after his business with his mother, Mrs. Tuti, and has 9 workers to help with his business. The business system run by Mr. Dendi uses a shift system or alternately, Mr. Dendi and Mrs. Tuti are on guard from 18.00 to 24.00, at 24.00 to 05.00 his business is guarded by his employees who are on guard while his business is open, but at 05.00 Mr. Dendi and Mrs. Tuti return to guard the market until 08.00. During the celebration of Eid al-Fitr, Mr. Dendi is not operational for 7 days. And on Eid al-Adha, Mr. Dendi is not operational for only 1 day.

The results of the study are presented based on data obtained through interviews, observations, and documentation with vegetable traders at Pasar Baru Karawang. The results of this study will describe various things about:

# 1. Sources of Chili Supply and Ordering Transaction Systems in Vegetable Trading Businesses in Pasar Baru Karawang

## a. Mr. Edi

For chili supply, Mr. Edi always buys from suppliers in Cikopo every day, by first placing an order via WhatsApp at 12.00 noon, after obtaining information on the availability of goods from the supplier, Mr. Edi picks up the goods himself directly to Cikopo, and the goods arrive at the Karawang market at around 15.00 in the afternoon. The payment system is carried out when picking up orders to Cikopo with cash payments, sometimes also by transfer. During the running of the business, Mr. Edi has never changed suppliers. Mr. Edi obtained supplier information based on recommendations from a friend of Mr. Edi's parents and has been working with suppliers since 2008.

## b. Mr. Deni

DN sayur's chili supply comes from Cikopo and Cibitung, for the main supply it remains from Cikopo but Mr. Deni always compares prices first before placing an order when in Cikopo the price of chili is more expensive Mr. Deni will order chili from Cibitung. Sometimes Mr. Deni gets supplies directly from his chili farmers. Mr. Deni usually makes orders by coming directly to the place so he can see the quality of the chili directly, sometimes he also orders chili via WhatsApp. Mr. Deni shops at 15.00 then the chili arrives at the market at 18.00. Chili orders are made every day with a payment system when the goods arrive Mr. Deni pays for them the next day. Payment can be made in cash or via transfer. Mr. Deni has been working with suppliers from Cikopo since his parents managed his business until now. As for suppliers from Cibitung, Mr.

Deni has only been working together since 2020 based on recommendations from his friends.

#### c. Mr. Dendi

Mr. Dendi's chili supply comes from Cikopo and Bandung. The main supplier is from Cikopo, but sometimes Mr. Dendi also gets chili supplies from Bandung depending on the price of the chili, before shopping Mr. Dendi always updates the price of chili from 2 suppliers to compare cheaper prices by asking via WhatsApp, usually Mr. Dendi shops at 13.00 and the goods arrive at Pasar Baru Karawang at 19.30. Payment made by Mr. Dendi is in cash or transfer when the goods arrive. Mr. Dendi finds out supplier information from other market traders, because it is common for traders to shop at the Cikopo main market.

## 2. Number of Chili Stocks at Vegetable Traders at Pasar Baru Karawang

#### a. Mr. Edi

Mr. Edi has an average amount of inventory under normal conditions and the price of chili is falling, the amount of inventory prepared is 30 - 40 kg per day, with the provision that in March Mr. Edi does not operate (holiday) for 3 days. While when the price of chili increases or the supply is difficult to find, Mr. Edi is forced to reduce the minimum inventory volume to around 15-20 kg per day. When certain moments such as Eid al-Fitr, Eid al-Adha, Christmas and New Year, Mr. Edi increases the chili stock for safety stock up to 50 - 60 kg for 7 days before the day of the celebration to anticipate the high demand from consumers.

The following is the inventory data for chili trader Mr. Edi.

**Table 1** Average Number of Chili Stock of Mr. Edi as of February 2024 – January 2025

No	Bulan	Jumlah Rata – Rata Persediaan Cabai (Kg)	
		Cabai Kriting	Cabai Rawit
1	Februari	28 hari x 20kg = 560 kg	28 hari x 20kg = 560 kg
2	Maret	28 hari x 15kg = 420 kg	28 hari x 20 kg = 560 kg
3	April (Kondisi Idul Fitri)	(20 hari x 20 kg) + (10hari x 30kg) = 700 kg	(20 hari x 20 kg) + (10hari x 30kg) = 700 kg
4	Mei	31 hari x 20kg = 620kg	31 hari x 20kg = 620kg
5	Juni (Kondisi Idul Adha)	(23hari x 20kg) + (7 hari x 25 kg) = 635 kg	(23hari x 20kg) + (7 hari x 25 kg) = 635 kg
6	Juli	31hari x 15kg = 465 kg	31 hari x 14kg = 434kg
7	Agustus	31 hari x 20 kg = 620 kg	31 hari x 20 kg = 620 kg
8	September	30 hari x 20kg = 600 kg	30 hari x 15kg 450 kg
9	Oktober	31 hari x 20 kg = 620 kg	31 hari x 20 kg = 620 kg
10	November	30 hari x 20 kg = 600 kg	30 hari x 20 kg = 600 kg
11	Desember ( Konsisi Natal)	(24hari x 20 kg) +(7hari x 25 kg ) = 655 kg	(24hari x 20kg) +(7hari x 25 kg ) = 655 kg
12	Januari (Kondisi Tahun Baru) sampai tanggal 15/1/25	(7 hari x 30kg )+ (8 hari x 20 kg) = 370 kg	(7 hari x 30kg) +(8 hari x 20 kg) = 190 kg
Jumlah Rata – Rata Persediaan Cabai		6.865 kg	6.644 kg

Source: Data Processing, Author 2024.

Based on the table in 1.1, it shows that the average inventory of curly chili and cayenne pepper per month from February 2024 to January 2025. The total average inventory of curly chili is 6,865 kg, while cayenne pepper reaches 6,644 kg. In February 2024, the inventory of curly chili and cayenne pepper was recorded as the same, which was 560 kg. The highest inventory occurred in April, with a total of 700 kg for both types of chili, which was influenced by the surge in demand during the Eid al-Fitr moment. In this month, Mr. Edi added 10 kg of stock within 10 days before the Eid. In June there was also an increase due to the Eid al-Adha celebration, where inventory increased by 5 kg to within 7 days. Conversely, the lowest inventory occurred in July, which was 465 kg for curly chili and 434 kg for cayenne pepper. In December, demand increased again due to the Christmas moment, so stock was increased by 5 kg in 7 days. In early January 2025, a significant increase in stock was seen due to New Year celebrations, with an increase of 10 kg in 7 days.

## b. Mr. Deni

Mr. Deni has an average supply of chilies under normal conditions and consumer demand is not high, which is 20 kg to 40 kg per day. With the provision that on Eid al-Fitr. Dn sayur does not operate (closed) for 1 day. However, when the supply of chilies from suppliers is difficult, Mr. Deni only gets half of his normal supply of chilies. One week before the D-day of celebrations such as Eid al-Fitr, Eid al-Adha, Christmas and New Year. Mr. Deni increases the supply of chilies to 70 kg to meet the soaring consumer demand and anticipate a shortage of chili supplies in his business.

The following is the inventory data for Chili Trader Mr. Deni

**Table 2** Average Number of Chili Stock of Mr. Deni as of February 2024 – January 2025

No	Bulan	Jumlah Rata – Rata Persediaan Cabai (Kg)	
		Cabai Kriting	Cabai Rawit
1	Februari	28 hari x 15 kg = 420 kg	28 hari x 10kg = 280 kg
2	Maret	31 hari x 15kg = 465 kg	31 hari x 15 kg = 465 kg
3	April (Kondisi Idul Fitri)	(22 hari x 20 kg) + (7 hari x 35 kg) = 685 kg	(22 hari x 20 kg) + (7 hari x 35 kg) = 685 kg
4	Mei	31 hari x 15 kg = 465 kg	31 hari x 15 kg = 465 kg
5	Juni (Kondisi Idul Adha)	(23hari x 15 kg ) + (7 hari x 35 kg) = 590 kg	(23hari x 10 kg ) + (7 hari x 35 kg) = 278 kg
6	Juli	31hari x 10kg = 310 kg	31 hari x 10 kg = 310 kg
7	Agustus	31 hari x 15 kg = 465 kg	31 hari x 20 kg = 620 kg
8	September	30 hari x 20kg = 600 kg	30 hari x 15kg = 450 kg
9	Oktober	31 hari x 20 kg = 620 kg	31 hari x 20 kg = 620 kg
10	November	30 hari x 15 kg = 450 kg	30 hari x 15 kg = 450 kg
11	Desember ( Koneksi Natal)	(24 hari x 15 kg )+(7 hari x 35 kg ) = 605 kg	(24 hari x 15 kg )+(7 hari x 35 kg ) = 605 kg
12	Januari (Kondisi Tahun Baru) sampai tanggal 15/1/25	(7 hari x 35 kg )+ (8 hari x 20 kg) = 405 kg	(7 hari x 35 kg )+(24 hari x 20 kg) = 405 kg
Jumlah Rata – Rata Persediaan Cabai		6.080 kg	5.633 kg

Source: Author, 2024.

Based on table 1.2, it explains that the average inventory of curly chili and cayenne pepper per month during the period from February 2024 to January 2025 experienced fluctuations. The average total inventory of curly chili was recorded at 6,080 kg, while cayenne pepper reached 5,633 kg. In February 2024, the stock of chili for the curly chili type was 420 kg while for red cayenne pepper it was only 280 kg. The highest inventory occurred in April with a total of 685 kg for all types of chili, this was influenced by the increasing demand ahead of Eid al-Fitr, so Mr. Deni added 15 kg of stock per type of chili in 7 days before the celebration. An increase in inventory also occurred in June due to the Eid al-Adha celebration, with an additional stock of 20 kg for curly chili in 7 days and an additional 25 kg more for cayenne pepper in 7 days. Conversely, the lowest stock was recorded in July, which was 310 kg for all types of chili. In December, demand increased again due to the Christmas celebration, so stock was added by 20 kg in 7 days. Meanwhile, in early January 2025, there was a significant increase in stocks due to New Year celebrations, with an additional 15 kg in the first 7 days of January.

## 2. Mr. Dendi

Under normal conditions with not too high consumer demand, Mr. Dendi usually has a chili stock of between 150 kg to 160 kg per day. Approaching the Eid al-Fitr holiday, it is closed for 7 days. However, when the chili supply from the supplier is having difficulty with chili stock, Mr. Dendi can still get chili in normal stock because Mr. Dendi has previously ordered in advance from the supplier. About a week before major celebrations such as Eid al-Fitr, Eid al-Adha, Christmas, and New Year, Mr. Deni increases his chili stock to 230 kg per day to anticipate spikes in demand while preventing supply shortages in his business.

The following is the inventory data for chili trader Mr. Dendi.

**Table 3** Average Number of Chili Stock of Mr. Dendi per February 2024 – January 2025

No	Bulan	Jumlah Rata – Rata Persediaan Cabai (Kg)	
		Cabai Kriting	Cabai Rawit
1	Februari	28 hari x 50 kg = 1.400 kg	28 hari x 100kg = 2.800 kg
2	Maret	31 hari x 50 kg = 1.550 kg	31 hari x 100 kg = 3.100 kg
3	April (Kondisi Idul Fitri)	(7 hari x 80 kg) + (16 hari x 60kg) = 1.520 kg	(7 hari x 150 kg) + (16hari x 100kg) = 2.650 kg
4	Mei	31 hari x 55 kg = 1.705 kg	31 hari x 100kg = 3.100kg
5	Juni (Kondisi Idul Adha)	(22 hari x 50kg ) + (7 hari x 80 kg) = 1.660 kg	(22 hari x 100kg ) + (7 hari x 150 kg) = 3.250 kg
6	Juli	31hari x 60 kg = 1.860 kg	31 hari x 100 kg = 3.100 kg
7	Agustus	31 hari x 60 kg = 1.860 kg	31 hari x 100 kg = 3.100 kg
8	September	30 hari x 50kg = 1.500 kg	30 hari x 100 kg 3.000 kg
9	Oktober	31 hari x 50 kg = 1.550 kg	31 hari x 100 kg = 3.100 kg
10	November	30 hari x 50 kg = 1.500 kg	30 hari x 100 kg = 3.000 kg
11	Desember (Konsisi Natal)	(24 hari x 50 kg )+(7 hari x 80 kg ) = 1.760 kg	(24 hari x 100 kg )+(7 hari x 150 kg ) = 3.450 kg
12	Januari (Kondisi Tahun Baru) sampai tanggal 15/1/25	(7 hari x 80kg )+ (8 hari x 50 kg) = 960 kg	(7 hari x 150 kg )+(8 hari x 100 kg) = 1.850 kg
Jumlah Rata – Rata Persediaan		18.825 kg	35.500 kg

Source: Author, 2024.

Based on table 1.2, it explains that the average supply of curly chilies and cayenne peppers per month during the period from February 2024 to January 2025 experienced fluctuations in the supply of curly chilies and cayenne peppers owned by vegetable traders every month based on normal conditions and religious and national holidays. In normal months, the average supply of curly chilies is 1,400–1,860 kg and cayenne peppers is 2,800–3,100 kg, with a daily chili supply of around 50–60 kg for curly chilies and 100 kg for cayenne peppers. In the run-up to major holidays such as Eid al-Fitr (April), Eid al-Adha (June), Christmas (December), and New Year (January), traders significantly increase their stock to anticipate spikes in demand, such as an increase of up to 80 kg per day for curly chilies and 150 kg per day for cayenne peppers during the week leading up to the big day. In total, over a one-year period, the average overall stock of curly chilies reached 18,825 kg and cayenne peppers reached 35,500 kg.

### 3. Price and Quality of Chilies at Vegetable Traders in Pasar Baru Karawang

#### a. Mr. Edi

The price and quality of chilies at Mr. Edi's Vegetable Shop are highly dependent on weather conditions and planting seasons. When the weather is good, such as in the relatively dry dry season, the chili harvest tends to be abundant, so the quality of the chilies obtained is better with fresh skin, bright colors, and longer shelf life. Conversely, during the rainy season, especially when rainfall is high, the chili harvest often decreases drastically. Chilies produced in this season tend to have less than optimal quality, such as softer skin or shorter shelf life. This is due to high humidity, which has the potential to cause chilies to rot easily both during harvest and the distribution process.



**Table 4** Price Increase and Quality of Mr. Edi's Chili at Pasar Baru Karawang as of February 2024 - January 2025 .

No	Month	Price		Quality		Reason
		Curly Chili	Cayenne pepper	Curly Chili	Cayenne pepper	
1	February	Rp. 57,000	Rp. 40,000	Small size, dull color, easy to rot	Small size, dull color, easy to rot	High rainfall
2	March	Rp. 56,000	Rp. 40,000	Small size, dull color, easy to rot	Small size, dull color, easy to rot	High rainfall
3	April	Rp. 55,000	Rp. 50,000	Good quality chili	Good quality chili	Drought No drought
4	May	Rp. 50,000	Rp. 45,000	Size and quality tend to be normal	Size and quality tend to be normal	Drought No drought
5	June	Rp. 60,000	Rp. 60,000	Large size, bright colors, and optimal quality.	Large size, bright colors, and optimal quality.	Drought No drought
6	July	Rp. 50,000	Rp. 55,000	Large size, bright colors, and optimal quality.	Large size, bright colors, and optimal quality.	Dry but not drought
7	August	Rp. 50,000	Rp. 65,000	Size and quality tend to be small	Size and quality tend to be small	Drought
8	September	Rp. 30,000	Rp. 30,000	Size and quality tend to be normal	Size and quality tend to be normal	Drought, water shortage
9	October	Rp. 30,000	Rp. 35,000	Size and quality tend to be small	Size and quality tend to be small	Due to hot weather
10	November	Rp. 20,000	Rp. 20,000	Small size, dull color, and prone to rot	Small size, dull color, and prone to rot	Attacked by patek pests and high rainfall
11	December	Rp. 50,000	Rp. 55,000	Small size, dull color, and prone to rot	Small size, dull color, and prone to rot	High rainfall
12	January	Rp. 90,000	Rp. 120,000	Small size, dull color, and prone to rot	Small size, dull color, and prone to rot	High rainfall

Source: Author 2024.

Based on Table 1.2, the fluctuation of chili prices throughout the period from February 2024 to January 2025 was influenced by several factors, including weather conditions, production quality, and religious holiday celebrations. The increase in chili prices was recorded in April, June, December, and January, which correlated with the increasing public demand during the Eid al-Fitr, Eid al-Adha, Christmas, and New Year periods, as well as limited supply due to high rainfall which had an impact on the decline in the quality of chilies. The peak price occurred in January 2025, where the price of curly red chilies reached IDR 90,000/kg and cayenne pepper reached IDR 120,000/kg, which was caused by a combination of high demand and limited supply due to unfavorable weather conditions . Conversely, the most significant price decline occurred in November, when the price of both types of chilies fell to IDR 20,000/kg, due to decreasing demand and poor quality of chilies due to extreme weather and pest attacks, which caused chilies to rot easily and were less in demand by consumers .

2. Mr. Deni

The price and quality of chilies at Mr. Deni's Vegetable Shop are greatly influenced by weather conditions and planting seasons. In the dry season which tends to be dry, the chili harvest is more abundant, so the chilies obtained have better quality with fresh skin, bright colors, and longer shelf life. Conversely, during the rainy season with high rainfall, chili supplies often decrease. Chilies harvested in this season generally have poor quality, such as a softer texture and are more easily rotten. High humidity also increases the risk of rot, both during harvest and during the distribution process.

**Table 5** Price Increase and Quality of Mr. Deni's Chili at Pasar Baru Karawang as of February 2024 – January 2025.

	Month	Price		Quality		Reason
		Curly Chili	Cayenne pepper	Curly Chili	Cayenne pepper	
1	February	Rp. 55,000	Rp. 38,000	Small size, dull color, easy to rot	Small size, dull color, easy to rot	High rainfall
2	March	Rp. 55,000	Rp. 40,000	Small size, dull color, easy to rot	Small size, dull color, easy to rot	High rainfall
3	April	Rp. 50,000	Rp. 50,000	Good quality chili	Good quality chili	Drought No drought
4	May	Rp. 48,000	Rp. 45,000	Size and quality tend to be normal	Size and quality tend to be normal	Drought No drought
5	June	Rp. 58,000	Rp. 58,000	Large size, bright colors, and optimal quality.	Large size, bright colors, and optimal quality.	Drought No drought
6	July	Rp. 50,000	Rp. 52,000	Large size, bright colors, and optimal quality.	Large size, bright colors, and optimal quality.	Dry but not drought
7	August	Rp. 50,000	Rp. 62,000	Size and quality tend to be small	Size and quality tend to be small	Drought
8	September	Rp. 28,000	Rp. 28,000	Size and quality tend to be normal	Size and quality tend to be normal	Drought, water shortage
9	October	Rp. 30,000	Rp. 33,000	Size and quality tend to be small	Size and quality tend to be small	Due to hot weather
10	November	Rp. 20,000	Rp. 20,000	Small size, dull color, and prone to rot	Small size, dull color, and prone to rot	Attacked by pests and high rainfall
11	December	Rp. 50,000	Rp. 53,000	Small size, dull color, and prone to rot	Small size, dull color, and prone to rot	High rainfall
12	January	Rp. 90,000	Rp. 120,000	Small size, dull color, and prone to rot	Small size, dull color, and prone to rot	High rainfall

Source: Author 2024.

Based on table 1.3 above, it explains the increase in chili prices from February 2024 to January 2025. The increase in chili prices in April, June, December and January was due to increased consumer demand due to holiday celebrations such as Eid al-Fitr, Eid al-Adha, Christmas and New Year, the highest chili price was in January 2025 curly red chili reached IDR 90,000 per kg and cayenne pepper reached IDR 120,000 per kg the increase in chili was due to high demand due to the New Year's moment and reduced chili stock from suppliers due to the rainy season so that chilies experienced poor quality such as chilies were prone to rot. In November, the price of chili fell significantly, namely IDR 20,000 per kg for all types of chili. The price of chili fell due to lack of demand from consumers and poor quality chilies due to weather factors so that the quality of chilies rotted easily.

### 3. Mr. Dendi

The price and quality of chilies at Mr. Dendi's Vegetable Shop are greatly influenced by weather conditions and planting seasons. In the dry season, the chili harvest is usually more abundant, so the chilies obtained have better quality, such as fresh skin, brighter colors, and longer storage life. Conversely, during the rainy season with high rainfall intensity, the amount of chili supply tends to decrease. Chilies harvested during the rainy season generally have poor physical conditions, such as a softer texture and are easily rotten. High humidity levels also increase the risk of rot, both during the harvest process and during distribution to traders.

**Table 6** Price Increase and Quality of Mr. Dendi's Chili at Pasar Baru Karawang as of February 2024 – January 2025.

No	Month	Price		Quality		Reason
		Curly Chili	Cayenne pepper	Curly Chili	Cayenne pepper	
1	February	Rp. 55,000	Rp. 38,000	Small size, dull color, easy to rot	Small size, dull color, easy to rot	High rainfall
2	March	Rp. 55,000	Rp. 40,000	Small size, dull color, easy to rot	Small size, dull color, easy to rot	High rainfall
3	April	Rp. 50,000	Rp. 50,000	Good quality chili	Good quality chili	Drought No drought
4	May	Rp. 45,000	Rp. 45,000	Size and quality tend to be normal	Size and quality tend to be normal	Drought No drought
5	June	Rp. 58,000	Rp. 58,000	Large size, bright colors, and optimal quality.	Large size, bright colors, and optimal quality.	Drought No drought
6	July	Rp. 50,000	Rp. 50,000	Large size, bright colors, and optimal quality.	Large size, bright colors, and optimal quality.	Dry but not drought
7	August	Rp. 50,000	Rp. 60,000	Size and quality tend to be small	Size and quality tend to be small	Drought
8	September	Rp. 27,000	Rp. 27,000	Size and quality tend to be normal	Size and quality tend to be normal	Drought, water shortage
9	October	Rp. 30,000	Rp. 33,000	Size and quality tend to	Size and quality tend to be small	Due to hot weather

				be small		
10	November	Rp. 20,000	Rp. 20,000	Small size, dull color, and prone to rot	Small size, dull color, and prone to rot	Attacked by patek pests and high rainfall
11	December	Rp. 50,000	Rp. 50,000	Small size, dull color, and prone to rot	Small size, dull color, and prone to rot	High rainfall
12	January	Rp. 90,000	Rp. 120,000	Small size, dull color, and prone to rot	Small size, dull color, and prone to rot	High rainfall

Source: Author 2024.

During the period from February 2024 to January 2025, there was a significant fluctuation in chili prices, mainly influenced by big days and weather factors. The most striking increase in chili prices occurred in April, June, December, and January. This is closely related to the increasing demand from consumers ahead of holiday celebrations such as Eid al-Fitr, Eid al-Adha, Christmas, and New Year. At its peak, namely in January 2025, the price of curly red chili reached IDR 90,000 per kilogram, while cayenne pepper soared to IDR 120,000 per kilogram. This increase was not only caused by high demand, but also by a decrease in the supply of chili from suppliers affected by the rainy season. High rainfall causes the quality of chili to decline, such as chilies that rot more easily and do not last long, which also affects prices at the trader level. Conversely, the decline in chili prices occurred in November, where the price of all types of chili fell to IDR 20,000 per kilogram. This decline was caused by weak consumer demand and the declining quality of chilies due to unfavorable weather conditions. Humid weather accelerates the rotting process of chilies, which ultimately reduces their marketability.

#### 4. Handling of Chili Stock at Vegetable Traders at the New Karawang Market

##### a. Mr. Edi

Handling of chili inventory carried out by Mr. Edi when the price of chili is normal and the supply of chili is abundant, Mr. Edi will provide chili with a normal supply of 30 - 40 kg when consumer demand is low, but when consumer demand is high such as the moments of Eid al-Fitr, Eid al-Adha, Christmas and New Year. Mr. Edi will increase the supply of chili to 50 - 60 kg per day to anticipate stock shortages.

When the price of chili is high and the supply of chili is difficult to obtain from suppliers, Mr. Edi only gets half of the normal supply, which is 15 kg per day, when the supply does not meet consumer demand, Mr. Edi will try to meet it by buying chili from other traders. Although there will be a price difference of Rp 2,000 per kg.

Mr. Edi re-orders chilies every day. If there is a stock of chilies from the previous day that has not been used up, Mr. Edi can apply the FIFO (*First In, First Out*) system, where the chilies that have not been sold out will be sold first the next day. This aims to maintain control of his inventory that those that have come in first must be removed immediately because of the quality of the chilies which are susceptible to rotting quickly.

##### b. Mr. Deni

Mr. Deni manages his chili stock according to market demand conditions. When chili prices are stable and supplies are abundant, Mr. Deni provides stock in normal amounts, namely 20-40 kg per day when consumer demand is low. However, during certain moments such as Eid al-Fitr, Eid al-Adha, Christmas, and New Year, Mr. Deni increases chili stock to 70 kg for 7 days before the day of these moments to avoid shortages due to high consumer demand.

On the other hand, when the price of chilies increases and the supply from suppliers is limited, Mr. Deni is only able to obtain around 20 kg per day, or half of the normal amount. If the available stock is not sufficient for demand, Mr. Deni tries to meet the needs by buying from other traders, even though there is a price difference of Rp 3,000 per kg.

To maintain the availability of chili, Mr. Deni reorders every day. If there is still remaining stock from the previous day, Mr. Deni applies the FIFO ( *First In, First Out* ) system just like Mr. Edi, ensuring that the chili that was not sold yesterday will be sold first the next day so that it is not wasted because the quality of the chili does not last long.

c. Mr. Dendi

Mr. Dendi manages his chili stock by adjusting to market demand conditions. When chili prices are stable and supplies are available in sufficient quantities, he provides stock in normal quantities, which is around 150 to 160 kg per day when consumer demand is relatively low. However, approaching big moments such as Eid al-Fitr, Eid al-Adha, Christmas, and New Year, Mr. Dendi increases stock to 230 kg per day for seven days before the day to anticipate spikes in demand and prevent supply shortages. When chili prices spike and supplies from suppliers are limited, Mr. Dendi can still obtain chili supplies like usual days of 150 kg to 160 kg per day. If availability is insufficient, Mr. Dendi will buy chili from other traders even though he has to bear a price difference of Rp 3,000 per kg. To maintain stock continuity, Mr. Dendi routinely places daily orders.

If there is remaining stock from the previous day, he applies the FIFO ( *First In, First Out* ) method, as done by Mr. Edi and Mr. Deni, to ensure that the chilies that came in first will be sold first, so that the quality is maintained and no chilies are wasted because they spoil quickly.

## Discussion

### a. Sources of Chili Supply and Ordering Transaction Systems in Vegetable Trading Businesses in Pasar Baru Karawang

Having cooperation with reliable suppliers will result in a good understanding and comprehension of the needs and requirements of each party so that it can increase income. (Christofer & Memarista, 2019). This is also in line with what was conveyed by Mr. Dedi Iskandar (Trade Control Division of Karawang Regency) who plans to collaborate with chili commodity supply centers to meet supply availability. Mr. Edi has been running a vegetable business since 2008 with the main source of chili supply coming from suppliers in Cikopo. This long-standing cooperative relationship shows the importance of trust and consistency in maintaining the stability of chili supply. Meanwhile, Mr. Deni and Mr. Dendi have 2 suppliers, Mr. Deni's suppliers are from Cikopo and Cibitung, Mr. Deni's main supplier is from Cikopo who has been working together since his parents ran their business, while the addition of suppliers from Cibitung has only been working together since 2020. While Mr. Dendi's suppliers are from Cikopo and Bandung, Mr. Dendi fulfills his chili supply by shopping in Cikopo and Bandung considering cheaper prices.

The development of technology from year to year has progressed very rapidly. Through WhatsApp, ordering goods from suppliers can be done easily and quickly. Sellers or buyers can communicate directly with suppliers to ensure the availability of goods and negotiate prices with just a few messages. The use of WhatsApp as an ordering medium simplifies the flow of communication, speeds up the transaction process, and reduces the time needed for coordination between sellers and suppliers. Thus, WhatsApp becomes an efficient tool for managing orders and ensuring the smooth supply of goods (Sari, 2020). Like Mr. Edi and Mr. Deni who place orders every day via the WhatsApp application during the day, where Mr. Edi, Mr. Deni and Mr. Dendi get information on the availability of goods and prices directly from the supplier. After confirming the stock, Mr. Edi and Mr. Dendi take the goods independently, ensuring that the chilies arrive at the market on time. However, sometimes Mr. Deni goes shopping himself to see the quality of the goods.

Based on previous research conducted by (Kansil et al., 2021) and (Ridwansyah et al., 2022), it was found that good cooperation between traders and suppliers and the use of communication technology play an important role in the smooth supply chain of chili commodities. The results of this study are in line with previous studies, where the long-term relationship between vegetable traders in Pasar Baru Karawang and their suppliers shows the importance of trust and consistency in maintaining supply availability. In addition, the use of the WhatsApp application as an ordering medium has been proven to facilitate the transaction and communication process between traders

and suppliers. This is reinforced by the practice of traders who choose supply sources based on quality and more competitive prices, such as those done by Mr. Dendi who supplies chilies from Cikopo and Bandung. These findings indicate that the synergy of cooperation and technology can support the efficiency and stability of chili supply for traders in traditional markets.

#### **b. Number of Chili Stocks at Vegetable Traders at Pasar Baru Karawang**

Economic growth causes income to continue to increase. The pattern of public demand experiences very drastic changes in an economy that is experiencing growth. (Sadono Sukirno, 2019). In a growing economy, public demand tends to increase, especially during certain periods accompanied by major celebrations. In February, the chili stock at Mr. Edi and Mr. Deni decreased, one of the causes was triggered by the election. This phenomenon is in accordance with a report from Katadata, which stated that the 2024 election had an impact on the agricultural sector, including chili, because of the involvement of farmers in the election process so that the chili stock in the market was running low because no one was harvesting.

A decrease in stock also occurred in July, the decrease in chili stock was triggered by drought. This is the same as the report from Detik Finance, the Ministry of Agriculture (Kementan) revealed that the supply of red cayenne pepper in July 2024 fell to 125,036 tons from 138,784 tons in June. This decline was caused by the drought that hit the main chili producing areas, such as Lamongan, Tuban, and Kediri Regencies. Meanwhile, in April, there was an increase in the amount of chili stock at vegetable traders Mr. Edi and Mr. Deni at Pasar Baru Karawang, along with preparations to welcome Eid al-Fitr, the tradition of Eid which is identical to special dishes such as sambal, rendang, and opor, driving a surge in demand for chilies because people started stocking up on food ingredients for the celebration. The existence of THR (Holiday Allowance) increases purchasing power, making consumers continue to buy chilies even though prices have increased.

This phenomenon is in line with a report from Detik Finance, which stated that the price of chili and other food ingredients, such as chicken, increased a week before Eid. This increase occurred due to a surge in demand that was not balanced by adequate supply in the market. Likewise, in June before Eid al-Adha, an increase in supply also occurred at vegetable traders Mr. Edi, Mr. Deni and Mr. Dendi because the tradition of cooking spicy dishes made from meat significantly increased chili consumption. According to the Monitor Indonesia report, the price of chili in the market, especially in Jakarta, increased sharply because the surge in demand was not balanced by adequate supply. However, the quality of chili this month tends to be normal, and the price increase is more due to demand factors that are much higher than supply. And in December to prepare for Christmas and January to welcome the New Year.

Based on previous research conducted by (Kansil et al., 2021) and (Ridwansyah et al., 2022), it was found that the availability of chili supply is greatly influenced by external factors such as season, social conditions, and certain celebration momentum. The results of this study are in line with previous studies, where the amount of chili stock at vegetable traders in Pasar Baru Karawang fluctuates which is influenced by events such as elections, dry season, and religious holidays such as Eid al-Fitr, Eid al-Adha, Christmas, and New Year. The decrease in stock occurs because farmers cannot harvest during the election or experience crop failure due to drought, while the increase in stock occurs before the holiday due to a surge in public demand that encourages traders to increase supply. This condition shows that the supply of chili in the market cannot be fully controlled, as also conveyed by the local government, and that the dynamics of demand and supply are the main factors that shape the pattern of chili availability in traditional markets.

According to Mr. Dedi Iskandar (Trade Control Division of Karawang Regency), the government only monitors the availability of safe chili stocks to meet demand in Karawang Regency. However, it cannot force chili supplies considering that chili is an agricultural product whose production cannot be fully controlled.

### c. Price and Quality of Chilies at Vegetable Traders in Pasar Baru Karawang

In the short term, the price of agricultural products tends to experience relatively large fluctuations. The price can reach a very high level at one time, while experiencing a very bad decline in the next. This price instability can be caused by the demand and supply of agricultural goods which are inelastic. This nature causes very large changes in price levels if demand or supply changes. Factors that cause agricultural price instability in the short term can be divided into the following two sources (i) falling demand and (ii) rising and falling supply (Sadono Sukirno, 2019). According to Mr. Dedi Iskandar (Trade Control Division), the meaning of fluctuation is the rise and fall of prices. Fluctuations in chili prices are partly caused by crop failure, changing weather and natural disasters. In the results of the study of the increase in chili prices at Pasar Baru Karawang from February 2024 to January 2025, there were price fluctuations influenced by major celebration moments such as Eid al-Fitr, Eid al-Adha, Christmas, and New Year, as well as weather factors.

The increase in the price of curly chili and cayenne pepper in April and June at vegetable traders Mr. Edi, Mr. Deni and Mr. Dendi reached Rp58,000 per kg, this was triggered by the Eid al-Fitr and Eid al-Adha moments where consumer demand continues to increase, the Eid al-Fitr and Eid al-Adha traditions which are identical to special dishes such as sambal, rendang, and opor, have driven a surge in demand for chili because people have started to stock up on food for the celebration. The existence of THR (Holiday Allowance) increases purchasing power, making consumers continue to buy chili even though the price has increased. This phenomenon is in line with a report from Detik Finance, which states that the price of chili and other food ingredients, such as chicken, has increased a week before Eid. This increase occurred due to a surge in demand that was not balanced by adequate supply in the market.

In December, the price of curly chili reached IDR 50,000/kg, while cayenne pepper increased to IDR 55,000/kg. This price increase occurred despite the declining quality of the chili, characterized by small size, dull color, and prone to rot. The main cause of this condition is high rainfall, which has an impact on harvest yields in various production centers. According to a Kompas TV report, ahead of Christmas and New Year 2025, the prices of a number of food commodities in Jakarta, such as rice and chili, have increased. However, the DKI Jakarta Provincial Government ensures that the availability of food stocks is still sufficient to meet the needs of the community during this period. Acting Governor of DKI Jakarta, Teguh Setyabudi, explained that this price increase was triggered by extreme weather that hit various food producing areas.

Entering January 2025, the price of chili at vegetable traders Mr. Edi, Mr. Deni and Mr. Dendi experienced a significant increase. Curly chili was recorded at IDR 90,000/kg, while cayenne pepper soared to IDR 120,000/kg. In addition to the price increase, the quality of chili on the market also tends to decline, with characteristics of small size, dull color, and prone to rot. The main cause of this price spike is the high rainfall that continues to pour in various chili producing areas. These extreme weather conditions have caused a decrease in production, so that the supply of chili on the market is limited. As reported by Tribun Pontianak, the government noted that this price increase was triggered by supply chain disruptions due to bad weather. However, the government continues to monitor the situation in the field and is trying to overcome distribution constraints to suppress further price increases.

Based on previous research conducted by (Kansil et al., 2021), it was found that the price fluctuation of cayenne pepper is greatly influenced by supply factors, extreme weather, and special moments such as religious holidays that have an impact on consumer demand. The results of this study are in line with previous studies, where the price fluctuation of chili in Pasar Baru Karawang was also triggered by increased demand during Eid al-Fitr, Eid al-Adha, Christmas, and New Year, as well as uncertain weather conditions. This is indicated by the spike in the price of curly chili and cayenne pepper to Rp120,000/kg, as well as the decline in the quality of chili due to high rainfall. In addition, the role of local governments in overcoming price fluctuations through the cheap market operation plan shows similarities with previous findings that government intervention is needed to maintain supply and price stability. This phenomenon shows that the dynamics of chili prices and distribution do not only occur in one region, but are a general pattern that requires a supply chain management strategy and sustainable policy

support.

To overcome the fluctuation in chili prices, Mr. Dedi Iskandar (Trade Control Division of Karawang Regency) will schedule cheap market operations for several commodities that have experienced price increases, one of which is chili.

#### **d. Handling of Chili Stock at Vegetable Traders at Pasar Baru Karawang**

Uncertain demand increases the likelihood of stockouts. One method to reduce stockouts is to hold extra units in inventory. *Safety stock* is an additional stock of goods that has been held with the aim of maintaining the possibility of a shortage of goods. The *safety stock technique* is included as a way to help operational planning to cover the uncertainty of demand and supply so as to provide the promised level of service to customers (Brahmantyo et al., 2023). Mr. Edi, who adjusts the supply of chilies according to market demand, provides 30-40 kg per day when normal, and adds chili stock (*safety stock*) to 50 kg when demand is high. When prices and supply are limited, Mr. Edi only gets 15 kg per day and buys from other traders even though it is more expensive, and applies the FIFO system to maintain stock quality. Likewise with Mr. Deni, who adjusts chili supply according to market demand, providing 20-40 kg per day when normal, and adding chili stock (*safety stock*) to 70 kg when demand is high. When prices and supply are limited, Mr. Deni only gets 20 kg per day and buys from other traders even though it is more expensive in order to still be able to meet consumer demand, and applies the FIFO system to maintain the quality of chili stock. Likewise, Mr. Dendi also applies a similar strategy by providing chili stock in the range of 150-160 kg per day when conditions are stable. However, approaching big days, he adds chili stock (*safety stock*) to 230 kg per day for seven days before the D-day as a form of anticipation of the surge in demand. When there is a price increase and limited supply, Mr. Dendi can still maintain normal supply, and if the stock is low, he also buys from other traders even with a price difference of Rp 3,000 per kg. Mr. Dendi also applies the FIFO system to maintain the quality of chilies so that they remain marketable.

Based on previous research conducted by (Kansil et al., 2021) and (Ridwansyah et al., 2022), it was found that the management of the chili supply chain is greatly influenced by fluctuations in demand and supply, as well as the need for adaptive strategies in maintaining stock availability and product quality. The results of this study are in line with these findings, where vegetable traders at Pasar Baru Karawang such as Mr. Edi, Mr. Deni, and Mr. Dendi implement a strategy of adjusting chili stock based on market demand, especially approaching major moments such as Eid al-Fitr, Eid al-Adha, Christmas, and New Year. They significantly increase the amount of stock (*Safety Stock*) as a form of anticipation of spikes in demand, and when supply is limited and prices soar, they maintain availability by buying from other traders even at higher prices. To ensure that the quality of the product remains marketable, the three traders also implement the FIFO (*First In First Out*) system as a common practice found in chili stock management in traditional markets. These strategies reflect the importance of flexible and responsive operational management to market dynamics, as recommended in the analysis of the supply chain and value of chili commodities in Jambi Province.

To overcome the availability of chili stock in Karawang Regency, Mr. Dedi Iskandar (Trade Control Division of Karawang Regency) is planning with the TPID (Regional Inflation Control Team) to work together to meet the availability of supply with centers in the supplier areas or commodity centers themselves, namely to West Bandung and Bandung as chili centers.

## **6. CONCLUSION AND IMPLICATIONS**

### **Conclusion**

Based on the research results and discussions that have been explained regarding the analysis of chili inventory at vegetable traders at Pasar Baru Karawang, the following conclusions can be drawn:

1. This study found that the source of chili supply for traders in Pasar Baru Karawang is mostly from surrounding areas such as Cikopo and Cibitung, with a simple transaction pattern using technology such as WhatsApp. The payment system used by Mr. Edi and Mr. Dendi is directly when picking up the order, either in cash or sometimes using a transfer system. While Mr. Deni's payment system is carried out



the next day after the goods arrive. Payments made by Mr. Deni can be made via transfer or cash.

2. The amount of chili stock provided by traders varies, depending on price fluctuations and certain seasons, where moments such as religious holidays significantly increase demand for chili. Like in February, chili stocks decreased due to the election, many farmers became committees at TPS (Polling Stations) so that no one harvested chili. Then the drought that occurred from July to October resulted in poor quality chili, such as small size and wrinkled chili due to lack of water. Meanwhile, the addition of chili stock to vegetable traders Mr. Edi, Mr. Deni and Mr. Dendi occurred during festive moments such as Eid al-Fitr, Eid al-Adha, Christmas and New Year. Mr. Edi added stock of around 10-20 kg from the stock on normal days. Mr. Deni added 30 kg from the stock on normal days. While Mr. Dendi added 80 kg from the stock on normal days.
3. Chili prices and chili quality are greatly influenced by high consumer demand and weather factors. Such as, big celebration moments such as Eid al-Fitr, Eid al-Adha, Christmas, and New Year, as well as extreme weather factors. Sharp price increases occur when demand spikes, such as during Eid al-Fitr and Eid al-Adha, where the need for food ingredients, including chilies, increases rapidly. Conversely, price decreases occur when supply is abundant, such as during the main harvest season. In addition, bad weather, such as high rainfall and drought, also affect the quality and quantity of chili harvests, thus affecting prices in the market.
4. Vegetable traders such as Mr. Edi, Mr. Deni, and Mr. Dendi implement the FIFO ( *First In First Out* ) strategy to maintain the quality of chili and use the *safety stock technique* to deal with fluctuations in consumer demand. Mr. Edi adjusts daily stock between 30-40 kg during normal times and adds chili stock (*safety stock*) up to 50 kg when demand is high, but only gets 15 kg when supply is limited, and still meets demand by buying from other traders even though the price is higher. The same thing is done by Mr. Deni, who provides 20-40 kg per day during normal times and adds chili stock (*safety stock*) of 70 kg during celebrations. When supply is limited, he only gets 20 kg and buys additional from other traders. Meanwhile, Mr. Dendi maintains a supply of 150-160 kg per day under normal conditions and adds chili stock (*safety stock*) to 230 kg before big days. Mr. Dendi also buys from other traders if the supply is lacking, even though he has to pay a price difference of Rp. 3,000 per kg.

### Implications

Based on research on the analysis of chili stock at Pasar Baru Karawang traders, the following suggestions can be taken :

1. The importance of more efficient supply chain management and chili inventory for traditional market traders in Pasar Baru Karawang. Traders are expected to be able to utilize digital technology not only for communication with suppliers, but also to monitor stock and analyze demand patterns based on the season. However, intensive training is still needed in the use of other more systematic digital applications, such as digital financial records or simple *e-commerce* , so that transactions are more efficient and well recorded. In addition, the clarity of the payment system, both cash and transfer, can also be better regulated through the use of QRIS or digital wallets.
2. Local governments can provide support in the form of training on inventory management strategies and price control to help traders deal with market fluctuations. Variations in stock levels due to social and seasonal factors (such as elections and dry seasons) indicate that traders need more adaptive and anticipatory stock planning. Local governments and trade offices can play a role in providing information on weather forecasts and strategic moments (such as holiday schedules or political agendas) to help traders determine more precise stock needs and reduce the risk of shortages when demand is high.
3. The dependence of chili prices and quality on weather and consumer demand shows the need for cooperation between traders and providers of climate or agricultural

information. The agricultural service or food security agency can provide an early warning system for extreme weather conditions that impact chili supplies, as well as formulate policies for storing or distributing chili reserves to maintain price and supply stability.

4. Although traders have implemented the FIFO system to manage chili stock, by considering the shelf life and freshness level of chili, the Just In Time (JIT) approach can be an alternative solution to reduce storage costs and accelerate capital turnover.
5. For further research, it is hoped that it can have broader implications regarding the sources of chili supplies with other traditional markets to see how big the differences are in inventory management.

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