Journal of Agri Socio Economics and Business
Available online at : https://ejournal.unib.ac.id/index.php/jaseb/index
DOI: 10.31186/jaseb.07.1.57-72

THE FORECASTING OF CURLY RED CHILI PRICE (*Capsicum annum* L.) IN BENGKULU CITY

Refi Septarena[1], Nyayu Neti Arianti[2*], Bambang Sumantri[3]
[1,2,3] Jurusan Sosial Ekonomi Pertanian, Fakultas Pertanian, Universitas Bengkulu, Bengkulu, Indonesia
email: nnarianti@unib.ac.id

How to Cite :
Septarena, R., Arianti, N.N., Sumantri, B. (2025). The Forecasting of Curly Red Chili Price (Capsicum annum L.) in Bengkulu City. *Journal of Agri Socio Economics and Business*. 7 (1): 57-72. DOI: https://doi.org/10.31186/jaseb.07.1.57-72

ARTICLE HISTORY
Received [15 Jan 2025]
Revised [02 May 2025]
Accepted [12 June 2025]

KEYWORDS
Curly Red Chili, Forecasting, Price

ABSTRACT

Curly red chili is one of the contributors to inflation because the price of curly red chili fluctuates and is influenced by the season. Fluctuations in chili prices will result in economic instability and increased inflation which will lead to a decrease in people's ability to meet their daily needs, thereby increasing poverty. This research was conducted in Bengkulu City because red chili production continues to decline due to the conversion of agricultural land into housing. The data used is time series data on the price of curly red chili at the retailer level per day in March 2021 – May 2025 which was converted into monthly data by averaging. This data was obtained from the National Food Agency. Judging from the pattern of chili price developments in August - November 2025, there was an increase in prices, while in August - November 2024 there was a decrease. At the end of 2024, prices are expected to fall due to good weather conditions so that the harvest of curly red chili can be maximized. Meanwhile, at the end of 2025, prices will increase due to weather conditions that will enter the rainy season. From March 2021 to July 2024, the highest price of curly red chili was IDR 84,000/Kg, namely in July 2022, while the lowest price was IDR 22,000/Kg in June 2021. The price of curly red chili in June 2025 - December 2025 was remained drop at price of IDR 28,000/Kg, it could fluctuate due to various factors impacting chili cultivation.

INTRODUCTION

The problem that always arises in marketing, especially horticultural commodities, is the occurrence of very high price fluctuations. This causes the amount of business profits and income obtained by farmers to fluctuate and

affects the development of horticultural agribusiness because unstable farming profits will reduce the attractiveness of business actors to invest capital to expand their business scale (Rosalina et al., 2021).

Curly red chili (*Capsicum annum* L.) is one of the commodities that is greatly needed by Indonesia people. Nendissa et al. (2023) added that the role of red chili is very large in meeting the needs of the Indonesian people, especially in the food industry. Therefore, red chili is one of the vegetable commodities that has a high economic value. Curly red chili is one of the contributors to inflation because the price of curly red chili fluctuates and is influenced by the season, especially during the rainy season when the price will be higher than the dry season and religious holidays (Windhy & Jamil, 2021).

The price of fresh chili is constantly monitored by the Indonesian government because it is included in the top ten commodities. The fluctuation of chili prices has increased in the last few years. As a result, the price has doubled in four months. There is no explanation as to why there was no further adjustment on the supply side to take advantage of the price increase (Webb & Kosasih, 2016). Chili also becomes a priority commodity and as an inflation controller in the 2015-2019 Agricultural Development Program by the Indonesian Ministry of Agriculture. This is because chili contributes to inflation in Indonesia. While inflation is an important indicator and is directly related to people's purchasing power (Edi et al., 2023).

The production of curly red chili in Bengkulu City experienced fluctuations as shown in Figure 1. Starting in 2022, chili production in Bengkulu City will increase and even increase sharply in 2024.

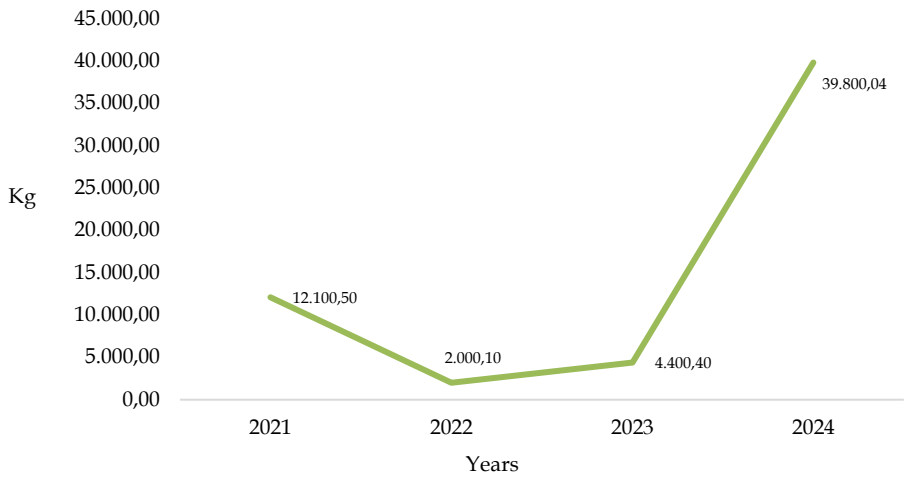

Figure 1. Trend of Curly Red Chili Production in Bengkulu City

Figure 2 shows the trend of curly red chili consumption in Bengkulu City. The available data is only up to 2022. However, there is an assumption that it will continue to increase.

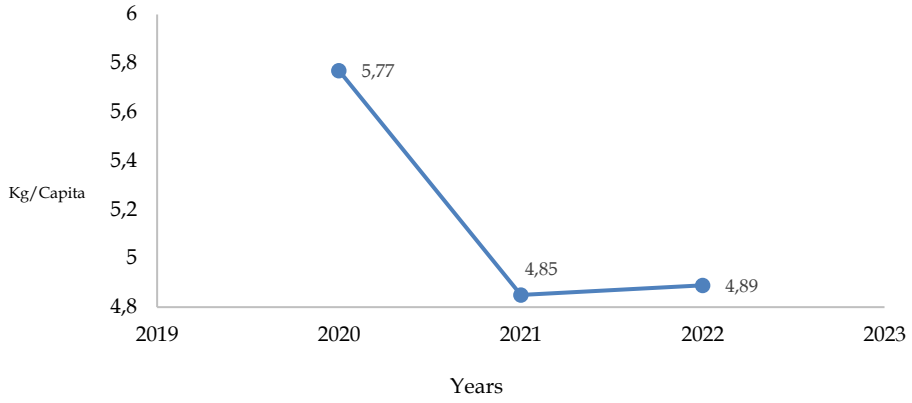

Figure 2. Development of Curly Red Chili Consumption in Bengkulu City

According to Ulya et al. (2023) chili is one of the agricultural commodities that is always consumed every day. Fluctuations in chili prices result in market instability and can cause losses when prices drop sharply. The price of curly red chilies in Bengkulu Province also fluctuates as shown in Figure 3. That is why it is necessary to do price forecasting to predict prices in the future.

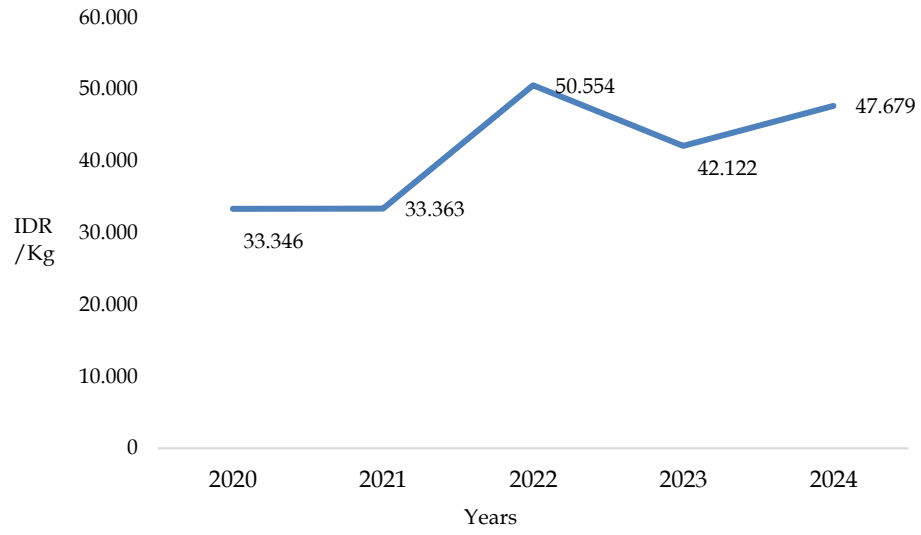

Figure 3 Trend of Curly Red Chili Prices in Bengkulu City

Fluctuations in the price of curly red chili affect producers and consumers. Chili farmers need clear prices so that they can be used as a reference to determine the right time to plant curly red chili so that they can reduce the risk of losses due to falling prices. If the price of curly red chili is low, farmers' profits will be small, conversely if the price of curly red chili is high, consumers will complain (Nasution et al., 2019).

The fluctuating price of curly red chili will cause losses for farmers, traders, the community, and the country. Fluctuations in the price of curly red chili will result in economic instability and increase inflation. So to overcome this problem, it can be overcome by conducting price forecasting in order to predict the price of curly red chili in the future quickly and accurately.

The behavior of chili prices also has a negative impact on the economy at the national and regional levels in various regions. For this reason, efforts need to be made to understand the behavior pattern of red chili prices so that future price behavior can be predicted or forecasted. This price forecast will be the basis for the government to take policies to overcome inflation. Forecasting chili price behavior patterns is carried out based on past data, namely time series data (Putriasari et al., 2022).

This forecast is used to anticipate fluctuations in the price of curly red chili and control the inflation rate. The results of the curly red chili price forecast can be used as a reference by various parties such as farmers to determine planting times, for consumers to maintain purchasing power and not hoard chili supplies, and for the government, it can be used as a reference for making policies and evaluations. This forecast is used to anticipate fluctuations in the price of curly red chili and control the inflation rate. The results of the curly red chili price forecast can be used as a reference by various parties such as farmers to determine planting times, for consumers to maintain purchasing power and not hoard chili supplies, and for the government, it can be used as a reference for making policies and evaluations.

Based on this description, this research was conducted. The purpose of this study is to analyze the development of price fluctuations of curly red chili in Bengkulu City in March 2021 – May 2025 and to predict the price of curly red chili in Bengkulu City in Juni 2025 - December 2025.

RESEARCH METHODS

Determining Research Locations

The research location was conducted in Bengkulu City. The selection of this location was done intentionally (purposive), because Bengkulu City produces very little curly red chili so that supply cannot meet demand which causes the price of curly red chili to tend to increase and fluctuate (Figure 3).

Method of Collecting Data

Data collection in this study used the documentation method by collecting, copying, checking, and evaluating reports related to the research object. In this study, the data used is secondary data, obtained from literature, books, journals, and other reliable sources. Time series data are on the price of curly red chili at the retail trader level per day which is converted into monthly data by finding the average price. Time series data is used because we want to see the development of the average price of curly red chili based on the time period. The data used is data on the price of curly red chili in Bengkulu City from March 2021 – May 2025 which is sourced from the website of the National Food Agency (*Badan Pangan Nasional, BPN*) with the title retail price panel.

Data Analysis Method

Two types of analysis were used in this study, namely descriptive analysis and analysis of curly red chili price forecasting. Descriptive analysis aims to obtain information about the conditions in the field, such as perceptions of the implementation of the strengthening program and the socio-economic conditions of the sample area. The analysis of curly red chili price forecasting was carried out using the Auto Regressive Integrated Moving Average (ARIMA) model in the Minitab19 application.

According Fauzani & Rahmi (2023) the ARIMA method is a good method for short-term forecasting. The ARIMA method uses time series data accurately. This is also stated by Prasetyo et al. (2023) the fact that the ARIMA analysis method is a forecasting method based on time series data. The ARIMA method can be used to forecast the prices of major commodities or important commodities in the short term. Ramadhan et al. (2025) added that the ARIMA method can be used to forecast the prices of major commodities or important commodities in the short term. According to Devianto et al. (2024) the price of chili is related to its historical price, so the best way to build a price model is to use time series analysis, especially the ARIMA model. The research results of Sukiyono & Janah (2019) also showed that the ARIMA (1,1,9) model is the most appropriate for predicting the price of curly red chilies.

The first stage of this method is to check the stationarity of the time series data of curly red chili prices. This check is the most basic and most important thing to see the behavior of time series data (Sugiarto et al., 2017).

The time series data of curly red chili prices will undergo two stationarity treatments, namely stationarity to the mean and variance using the Box-Cox plot test. The Box-Cox method is used to determine the best transformation that makes the data variance more stable, with the process of evaluating the lambda value through the Box-Cox plot to help achieve stationarity before applying the time series model.

Time-series data for the price of curly red chili will receive two stationarity treatments, namely stationarity to the mean and variance. Stationarity to the mean will be subjected to a differencing process while stationarity to the variance will be subjected to a transformation process. Data is said to be stationary if the lambda value = 1 (Pamungkas & Wibowo, 2017).

Furthermore Pamungkas & Wibowo (2017) continuing after the stationarity process is carried out on the average and variance, a temporary ARIMA model estimation will be carried out. In this process, the order of p, d, q will be determined. The determination of the order of p, d, q is done by observing the Autocorrelation Function (ACF) and Partial Autocorrelation Function (PACF) patterns. The values of p and q are said to be appropriate if t count > t table. The next process is parameter testing to ensure whether the selected model is significant. The ARIMA model is considered significant if the AR and MA values have a p-value that is smaller than the significance level (0.05). The model that passes both tests is then used to predict chili prices.

RESULTS AND DISCUSSION

Average Price Development of Curly Red Chili in Bengkulu City

The average price development of curly red chili in Bengkulu City from March 2021 to May 2025 in IDR/Kg is presented in Figure 4 and can be seen that the price of curly red chili in Bengkulu City from March 2021 - July 2024 fluctuated with an average of IDR 44,000/Kg. The highest price occurred in July 2022, which was IDR 84,000/Kg, while the lowest occurred in June 2021, which was IDR 22,000/Kg (Figure 1). Dani et al. (2023) gave research results obtained an overview of the time data of red chili prices in Indonesia which have a fluctuating pattern, increasing and decreasing in certain periods. The highest price occurred in July 2022, which was IDR 76,128.00/Kg. The time series graph pattern tends to repeat itself with the same pattern in several periods.

The price of curly red chili in Bengkulu City fluctuates every month. These price fluctuations worry many people because they occur every year. The increase in chili prices is caused by a lack of supply, while daily demand is constant, even increasing in certain seasons. This is in accordance with what was stated by Anwarudin et al. (2019) that the factors that cause chili prices to fluctuate are supply and demand.

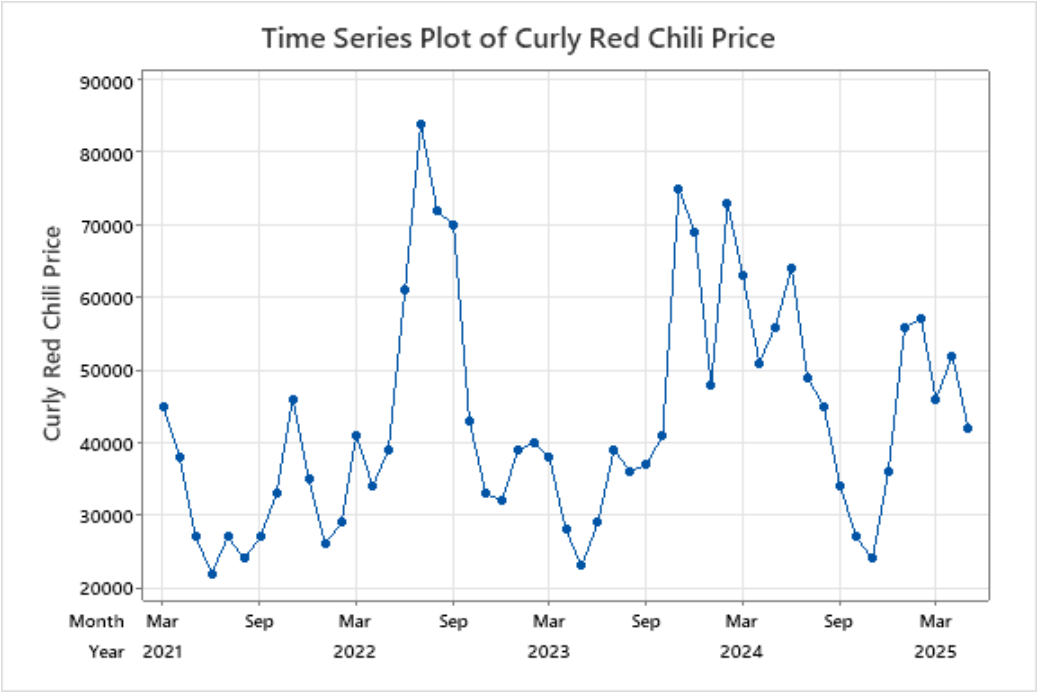

Figure 4. Development of Curly Red Chili Prices in Bengkulu City from March 2021 to May 2025 (IDR/Kg)

Whereas Farid & Subekti (2012) argues that the fluctuation of chili prices is caused by chili production which is influenced by the season, production costs, and the length of distribution channels. Chili supplies usually decrease during the rainy season, this is because in the rainy season the risk of crop failure is higher than in the dry season, because during the rainy season, curly red chili plants are prone to root rot which causes the curly red chili plants to die and cannot be harvested. In addition, in the rainy season, chili fruit is also prone to rot before being harvested. According to Heatubun & Legowo (2024) seasonal differences, such as long rainy or dry seasons, can reduce chili plant production. The impact is that the number of chilies sold in the market also decreases so that prices increase. Changes in the number of products demanded under certain conditions can cause chili prices to increase.

The price of curly red chili in June 2021, the price of curly red chili was at the lowest price because in that month there was a big harvest so the supply of curly red chili exceeded the demand. Meanwhile, in July 2022, it could reach the highest price because the price of fertilizer at the farmer level increased this had an impact on the increase in the price of curly red chili to cover the farming costs that had been incurred. In addition, the high price of curly red chili is also caused by bad weather which causes farmers' curly red chili plants to experience root

rot so that they cannot grow and develop properly. The amount of chili production decreased or even failed.

Figure 4 shows that the price of curly red chili has decreased, which is influenced by the time variable. Starting in March 2021, the price of curly red chili continued to decline until June 2021. Likewise, in August 2022, the price continued to decline until December 2022. This price decline occurred because, at the time of planting curly red chili, the weather was good so that the harvest could be maximized, besides that the abundant supply from Rejang Lebong Regency made the number of offers greater than the number of consumer demands this caused a price decline. This is not in accordance with the statement (Nauly, 2016) where the price increase occurs especially around December - January and June - July. The spike in chili prices is a result of the supply or production of land decreasing, while demand continues every day, and increases at certain times.

The price of curly red chili increased in August - November 2021 and 2023, while in August - December 2022 and August 2024 the price of curly red chili decreased. So it is possible that the price of red chili in August 2025 - November 2025 will increase.

Stationarity Test

Box-Cox plot is utilized in stationary process for variance. Data is said to be stationary to variance if the rounded value is equal to 1. The following are the results of the Box-Cox plot test before transformation.

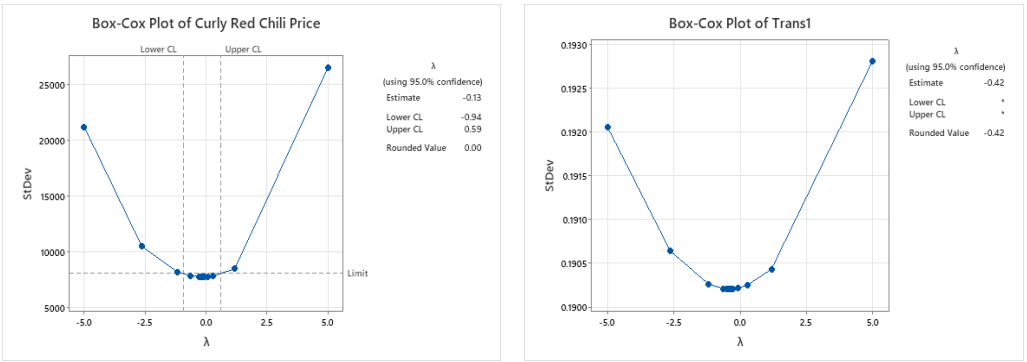

Figure 5. Box-Cox Plot of Red Curly Chili Prices

Figure 5 shows the rounded value = 0.00 and -1.53 in the first transformation. The Box-Cox plot results show that the tested data is not yet stationary with respect to variance, and further Box-Cox transformation must be carried out until the rounded value = 1.

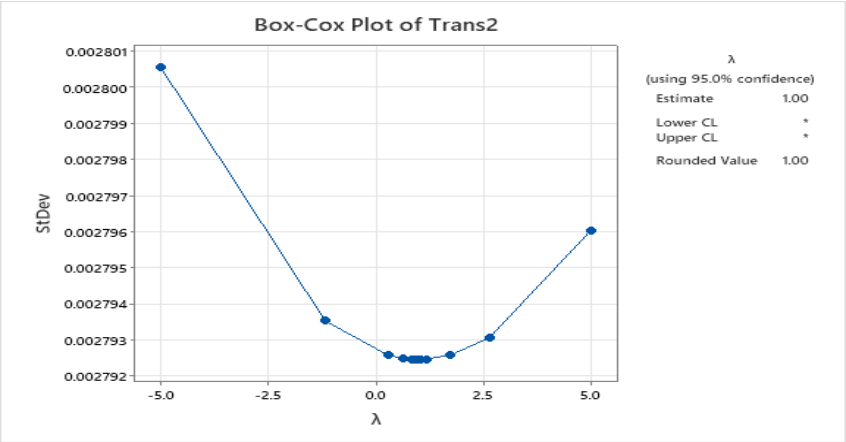

Figure 6. Second Transform Box-Cox Plot

Figure 6 shows that the lambda or rounded value is 1 after performing second transformation, indicating that the data is stationary with respect to variance.

The next step is to determine the p and q values by looking at the ACF and PACF plots. The following is a picture of the ACF plot of the curly red chili price.

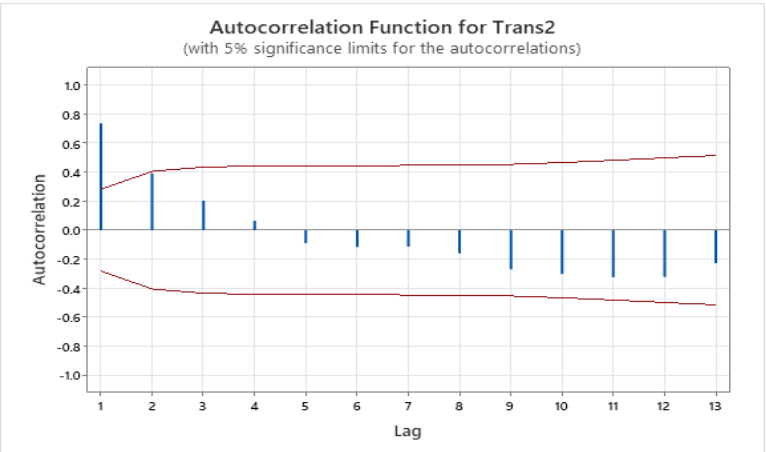

Figure 7. ACF Plot of the Curly Red Chili Price.

The ACF plot is generated from the price data of curly red chili in Bengkulu City. It can be seen in the plot that the first lag is outside the red line so that the data can be said to be stationary to the mean because the lag that is outside the line is no more than three.

If the data is stationary, the next step is to see the PACF plot of the stationary data. After differentiation 1, it is seen that the data is stationary to the mean. This is proven by the movement of data around the horizontal line. If the

data is stationary, then the next step is to see the PACF plot of the stationary data as in Figure 8.

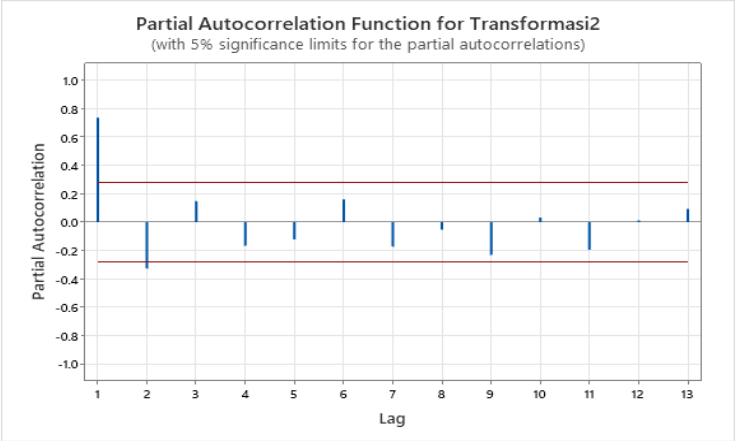

Figure 8. PACF Plot of Curly Red Chili Price

Figure 8 shows that in the PACF plot, it can be seen that there is a lag that exceeds the limit at lag 2. After conducting a stationary test on the variance and mean, the next step is to conduct a parameter test on the data.

Model Identification

The ACF price of curly red chili can be seen in Table 1.

Table 1. ACF Value of Curly Red Chili Price

Lag	ACF	T	t table
1	0.735899	5.26	
2	0.391908	1.94	
3	0.202697	0.94	
4	0.065008	0.30	
5	-0.088292	-0.40	0,68
6	-0.116095	-0.52	
7	-0.113823	-0.51	
8	-0.160987	-0.72	
9	-0.269554	-1.19	
10	-0.302761	-1.30	
11	-0.325182	-1.36	
12	-0.323105	-1.30	
13	-0.227061	-0.89	

Source: Secondary data processed, 2024

The results of this identification will be used in ARIMA modeling on the tested data. Table 1 shows that from the ACF value it is known that only at lag 1 the calculated t value> t table, so that the moving average value (1).

Table 1 shows that based on the ACF value, there are three lags that have a calculated t value greater than the t table, so that the moving average value (1-

3) is obtained. Furthermore, to see the AR value, it can be seen in the following PACF table (Table 2).

Table 2. PACF Value of Curly Red Chili Price

Lag	PACF	T	t table
1	0.735899	5.26	
2	-0.326404	-2.33	
3	0.147352	1.05	
4	-0.166558	-1.19	
5	-0.121435	-0.87	
6	0.160609	1.15	0,68
7	-0.173425	-1.24	
8	-0.053467	-0.38	
9	-0.230655	-1.65	
10	0.032002	0.23	
11	-0.195155	-1.39	
12	0.011819	0.08	
13	0.093706	0.67	

Source: Secondary data processed, 2024

Table 2 shows that based on the PACF value, there are two lag values that are greater than the calculated t, namely the 1st and 3rd lags, so the auto regressive value is 1. With a value of p = 1, the maximum combination for p is 1. The next step is to choose an ARIMA model based on the combination of p and q values. The temporary ARIMA model selected is ARIMA (1, 0, 1).

Parameter Estimation and Testing

Parameter testing is done to obtain the best model with the smallest error rate. The temporary model that has been obtained will be tested to see whether all parameters are significant or not. The following is an examination of the significance test of the ARIMA model parameters (1, 0, 1) using p-value.

Table 3. Testing the Significance Results of the ARIMA Model (1, 1, 1)

Parameter	Coef	SE Coef	t	P-Value	t tabel
AR	0.9767	0.0416	23.49	0.000	0,68
MA	-0.1330	0.1460	-0.91	0.368	

Source: Secondary data processed, 2024

Table 3 describes the results of the significance test of the auto regressive model parameters on AR (1), which indicates that the estimated parameters are significant because the p-value is smaller than the significance level (0.05) and the calculated t value is greater than the t table. The results of the significance test of the moving average model parameters on MA (1) indicate that the estimated parameters are significant, because the p-value is smaller than the significance level. Thus, the ARIMA (1, 0, 1) model is obtained.

Forecasting Results

The findings for the first objective show that the price of curly red chili fluctuates. This finding is in line with the statement Puspatika & Kusumawati (2018) that one of the characteristics of chili commodities is that their prices tend to be unstable and fluctuate highly. The instability and fluctuation of chili prices have a negative impact on society, thus chili price forecasting is needed to reduce the negative impacts caused.

Asriadi et al. (2023) stated that predicting the price of large chili in the future is important to predict market needs and risks. The fluctuating price of red chili will affect the behavior of farmers in farming red chili and the behavior of red chili consumers. Hareesh et al. (2023) also conveyed that chili price forecasting is also very useful as a basis for compiling agricultural planning, analyzing marketing, risk management, supply chain optimization, consumer impact analysis, export and import decision making, policy formulation, investment decisions, and economic stabilization. So it will be very useful for stakeholders from the production to consumption side. The forecasting results provide important information for designing marketing strategies.

After obtaining the ARIMA (1, 1, 1) model, the results of forecasting the price of curly red chili in Bengkulu City can be seen in Table 4.

Table 4. ARIMA Model Forecast (1, 0, 1) June 2024 - December 2025

Month (2025)	Forecast Price (IDR/Kg)
Juni	39.000
Juli	32.000
Agustus	33.000
September	30.000
Oktober	24.000
November	20.000
Desember	20.000
Mean	28.000

Source: Secondary data processed, 2024

Table 4 is the forecast result for the period June 2025 - December 2025 for 7 periods using the ARIMA model (1, 0, 1). The forecast results show that prices tend to decline for 7 months with an average price of curly red chili of IDR 28,000/Kg.

However, if we look at the development of the price of curly red chili in Bengkulu City from March 2021 to June 2024, the price of curly red chili tends to decrease or approach the lowest forecast price from December to January. This happens because usually curly red chili farming enters the harvest season. The number of chili offered will increase compared to other months. If it is assumed that the amount of demand remains the same while the amount of supply

increases, then the price of curly red chili will decrease. The results of this study are also in line with the forecast results by Panasa et al. (2017) which showed a decrease in chili prices in the Khammam market during the harvest period (January to March 2020). Thus, it is necessary for the government to implement a minimum support price. This is done so that farmers and consumers feel the benefits.

This is not in accordance with the opinion Nauly (2016) which states that the price of curly red chili will be low in the middle of the year. This is because it is influenced by the planting season, where the middle of the year is the peak harvest time. The findings of this study also differ from the results of the forecasting of large red chili and curly red chili prices in Sumedang Regency conducted by Kusnawi et al. (2023) where the forecasting results show that over the next 12 periods the price of chili increased gradually. This is due to the increasing demand for chili. For this reason, planning is needed from the production side in order to be able to support the increasing demand for consumption. Thus, the price of chili in the market can be more stable.

The price of curly red chili in November tends to be high because the chili plants are still in the vegetative period. Thus, the number of curly red chili offers in the market decreases, which causes the price of curly red chili to increase. This is in line with the statement (Anwarudin et al., 2019) where in November to February the price of curly red chili will be high due to the scarcity of the supply of curly red chili.

In addition, if we look at the development pattern of the price fluctuation of curly red chili in Bengkulu City, there is a possibility that the price of chilifrom August to November 2025 will increase in price. Meanwhile, from August to November 2024, the price will decrease. At the end of 2024 the price is expected to decrease due to good weather conditions and not frequent rain so that the harvest of curly red chili will be maximized. While at the end of 2025, there is a possibility that the price will increase because the weather will enter the rainy season.

So even though the price forecast results predict that the price of curly red chili will fall at the end of 2024, the public must continue to monitor the development of chili prices on the market because if we look at the seasonal price cycle of curly red chili in the last few years, there is a possibility that the price at the end of the year will actually increase.

CONCLUSIONS AND POLICY IMPLICATIONS

Conclusions

The price of curly red chili from March 2021 to May 2025 fluctuated where the highest price of IDR 84,000/Kg occurred in July 2022 while the lowest price of IDR 22,000/Kg occurred in June 2021. The forecasting results with the ARIMA

model show that the price of curly red chili from Juni 2025 to December 2025 tengs to decrease with an average price of IDR 28,000/Kg. However, prices can change at any time because there are many factors that affect the farming of curly red chili plants. The price from August to November 2024, the price of curly red chili decreased, while from August to November 2025 it will increase, while in December and January, the price of chili tends to decrease.

Suggestion

Based on the results of this research, the suggestion that can be given is to hold training on processing curly red chili so that when the harvest occurs the harvest can be processed so that the price of chili is not too cheap and causes losses for curly red chili farmers.

It is recommended that further research use more time series data, so that the research results are more accurate and the forecasting results are better.

REFERENCES

Anwarudin, M. J., Sayekti, A. L., Marendra, A. K., & Hilman, Y. (2019). Dinamika Produksi dan Volatilitas Harga Cabai: Antisipasi Strategi dan Kebijakan Pengembangan. *Pengembangan Inovasi Pertanian*, *6*(1), 33–42.

Asriadi, A. A., Firmansyah, F., & Husain, N. (2023). Peramalan Cabai Besar Di Kota Makassar Dengan Metode Arima. *Mimbar Agribisnis : Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis*, *9*(1), 24. https://doi.org/10.25157/ma.v9i1.8136

Dani, A., Putra, F. B., & A'yun, Q. Q. (2023). Red Chili Price Forecasting in Indonesia Based on Data from the Strategic Food Price Information Center Using the Neural Network. *SSRN Electronic Journal*, *10*(3), 14–20. https://doi.org/10.2139/ssrn.4497728

Devianto, D., Wahyuni, E., Maiyastri, M., & Yollanda, M. (2024). The seasonal model of chili price movement with the effect of long memory and exogenous variables for improving time series model accuracy. *Frontiers in Applied Mathematics and Statistics*, *10*. https://doi.org/10.3389/fams.2024.1408381

Edi, S., Syafri, Z. R., Nurhayati, N., & Meilin, A. (2023). Analysis of Curly Red Chili Farming at Farmer-Level in Kerinci Highland. *IOP Conference Series: Earth and Environmental Science*, *1287*(1). https://doi.org/10.1088/1755-1315/1287/1/012002

Farid, M., & Ari Subekti, N. (2012). Tinjauan Terhadap Produksi, Konsumsi, Distribusi Dan Dinamika Harga Cabe Di Indonesia Review Of Production, Consumption, Distribution And Price Dynamics Of Chili In Indonesia. *Buletin Ilmiah Litbang Pusat Kebijakan Perdagangan Dalam Negeri, Badan Pengkajian Dan Pengembangan Kebijakan Perdagangan Kementerian*

Perdagangan-RI, *6*(2), 211–234. https://jurnal.kemendag.go.id/bilp/article/view/132/89

Fauzani, S. P., & Rahmi, D. (2023). Penerapan Metode ARIMA Dalam Peramalan Harga Produksi Karet di Provinsi Riau. *Jurnal Teknologi Dan Manajemen Industri Terapan*, *2*(4), 269–277. https://doi.org/10.55826/tmit.v2i4.283

Hareesh, G., Umar, S. N., Ramanamurthy, B., & Aparna, B. (2023). Price Forecasting of Chilli in Warangal Market Using ARIMA Model. *The Andhra Agricultural Journal*, *70*(2), 246–253. https://doi.org/10.61657/aaj.2023.37

Heatubun, A. B., & Legowo, P. S. (2024). *Anticipate risk and uncertainty through price forecasting strategies : Case study of curly red chili prices in traditional markets in several cities in West Java Province*. 147–155.

Kusnawi, K., Eka Putra, M. A. F., & Ipmawati, J. (2023). Price Prediction Of Basic Material Using ARIMA Forecasting Method Through Open Data Sumedang District. *Sistemasi*, *12*(2), 293. https://doi.org/10.32520/stmsi.v12i2.2282

Nasution, A. H., Hanter., Rahman, P. (2019). Keragaan Pemasaran Cabai Merah Di Sumatera Utara Kasus Kecamatan Beringin, Kabupaten Deli Sedang Performance. *Jurnal Pertanian* , *10*, 117–126.

Nauly, D. (2016). Fluktuasi dan Disparitas Harga Cabai di Indonesia. *Jurnal Agrosains Dan Teknologi*, *1*(1), 57–69.

Nendissa, D. R., Bano, M., Eylanor, M. I., Kana, Y. R., Pollo, R., & Malik, A. K. (2023). Price Dynamics and Red Chili Price Linkages Between Markets in Surplus and Deficit Areas. *Russian Journal of Agricultural and Socio-Economic Sciences*, *135*(3), 51–59. https://doi.org/10.18551/rjoas.2023-03.07

Pamungkas, M. B., & Wibowo, A. (2017). Aplikasi Metode Arima Box-Jenkins Untuk Meramalkan Kasus Dbd Di Provinsi Jawa Timur. *The Indonesian Journal of Public Health*, *12*(2), 181–194. https://doi.org/10.20473/ijph.vl13il.2018.181-194

Panasa, V., Kumari, R. V., Ramakrishna, G., & Kaviraju, S. (2017). Maize Price Forecasting Using Auto Regressive Integrated Moving Average (ARIMA) Model. *International Journal of Current Microbiology and Applied Sciences*, *6*(8), 2887–2895. https://doi.org/10.20546/ijcmas.2017.608.345

Prasetyo, K., Putri, D. D., Kartika Eka Wijayanti, I., & Zulkifli, L. (2023). Forecasting of Red Chilli Prices in Banyumas Regency: The ARIMA Approach. *E3S Web of Conferences*, *444*. https://doi.org/10.1051/e3sconf/202344402017

Puspatika, K., & Kusumawati, Y. (2018). Peramalan Harga Cabai Dengan Metode Arima Arch-Garch Dan Single Moving Average Di Kota Semarang. *Journal of Information System*, *03*(2), 192–201.

Putriasari, N., Nugroho, S., Rachmawati, R., Agwil, W., & Sitohang, Y. O. (2022). Forecasting A Weekly Red Chilli Price in Bengkulu City Using

Autoregressive Integrated Moving Average (ARIMA) and Singular Spectrum Analysis (SSA) Methods. *Journal of Statistics and Data Science*, *1*(1), 1–6. https://doi.org/10.33369/jsds.v1i1.21007

Ramadhan, A. U., Siregar, M. U., Gunawan, E. H., & Anshari, M. (2025). *Price Forecasting of Chili Variant Commodities Using Radial Basis Function Neural Network*. *12*(1), 1–14. https://doi.org/10.14421/ijid.2023.5129

Rosalina, F., Sukmawati, S., & Febriadi, I. (2021). Sosialisasi Pemanfaatan Limbah Organik Sebagai Upaya Pengurangan Ketergantungan Pupuk Kimia Kepada Kelompok Tani Di Keluarah Majener. *DedikasiMU : Journal of Community Service*, *3*(4), 1190. https://doi.org/10.30587/dedikasimu.v3i4.3258

Sugiarto, S., Bustami, & Effendi, R. (2017). Penduga Model Arima Untuk Peramalan Harga Tbs Kelapa Sawit di Propinsi Riau. *Jurnal Sains, Teknologi Dan Industri*, *15*(1), 35–40.

Sukiyono, K., & Janah, M. (2019). Forecasting Model Selection of Curly Red Chili Price at Retail Level. *Indonesian Journal of Agricultural Research*, *2*(1), 1–12. https://doi.org/10.32734/injar.v2i1.859

Ulya, F. Z., Wijaya, A. R., & Puspita, P. L. (2023). Peramalan Harga Cabai dan Bawang di Pasar Tradisional Purwokerto dengan Model Autoregressive Integrated Moving Average (ARIMA). *Seminar Nasional Official Statistics*, *2023*(1), 757–766. https://doi.org/10.34123/semnasoffstat.v2023i1.1794

Webb, A. J., & Kosasih, I. A. (2016). Analysis of Price Volatility in the Indonesia Fresh Chili Market. *Annual Meeting of the International Agricultural Trade Research Consortium*, 1–10.

Windhy, A. M., & Jamil, A. S. (2021). Peramalan Harga Cabai Merah Indonesia : Pendekatan ARIMA. *Jurnal Agriekstensia*, *20*(1), 78–87.