

Chilli Export Dynamics in India

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Abstract

In this paper analyzed the chilli export dynamics in India during the year from 2000-01 to 2024-25. In terms of the quantity, India's chilli exports have increased remarkably between 2000-01 and 2024-25, nearly doubling from about 70,000 tonnes to over 7 lakh tonnes. This expansion demonstrates India's growing market dominance in the world's chilli market, which is prompted by growing production and rising demand international. The export value has grown more unevenly, though. Although the total value has grown over time, new data shows a disturbing trend in 2024–2025: export quantity increased by almost 19 percent, but the total value of exports decreased. These points to a decline in average export prices, which could be brought on by market excess supply, shifting consumer demand internationally, or problems with quality. All things considered, even though India has effectively increased its share of the global chilli export market, maintaining value growth will necessitate a strategic emphasis on quality, market diversification, and value-added products in order to combat price volatility and guarantee long-term profitability.

Key Words: Chilli, Exports, Trend analysis, Compound growth rate, Market.

JEL Classifications: F14, Q17, Q13, O13.

Introduction

Chilli accounts for about Rs.6,500 crore per annum of total exports of spices in India. The total exports are worth around Rs.21,500 crores. Efforts are being under taken to increase the export of processed (value-added) chilli, which is only 30 per cent of the total exports, while the remaining is whole dried chilli. India is the global leader in chilli production and export, and Andhra Pradesh stands first in the list of States producing the commercial crops. The quality of Indian chilli is the most preferred the world over. In terms of both volume and value the chilli exports have shown a healthy growth over the last 10 years. Even in Indian chilli's Pesticide residue and aflatoxins are found in negligible quantities. The 'Byadagi' chilli grown in Karnataka has fabulous demand in the world market largely because of its rich colour and pungency. The 'Teja' and 'Guntur Sannam' varieties grown in the Guntur - Prakasam - Krishna region make Andhra Pradesh the leader in chilli production in India. Karnataka and Madhya Pradesh are second and third major chilli producing States in India. The taskforce is currently preparing a roadmap for India's continued domination in the long run and to derive

greater value from exports and deliver better returns to the farmers. Now Indian chilli exports contributes to more than 50 per cent of the global chilli trade with China being its closest competitor, but it is far behind in the second position. India has exported 4.84 lakh tonnes of chilli in the year 2019-20.

Review of Literature

Geetha and Selvarani (2017) in their article pointed out that the world production of chilli crop to around 7 million Tonnes, which is cultivated on 1.5 million hectares of land. India is the world leader in chilli production followed by China and Pakistan. This shows that the bulk share of chilli production is held by the Asian countries, though it is produced throughout the world. A large demand for chilli comes from several chilli consuming countries such as China, Mexico, Thailand, USA, UK, Germany and Sweden. India's share in global production of chilli ranges between from 50 to 60 per cent. However, India is the only one source for hot chillies.

Muthupandi, Sekar and Karunakaran (2018) revealed that the trade was facing higher instability during pre-implementation of globalization and the same found to decrease during the post implementation of globalization. This decrease might be due to food safety norms enunciated by the importing destinations. However, the export of Chilli in a decade of time found to be increased and hence the Indian exporters and the traders involved in export has to contact the farmer clusters in producing the exportable product of Chilli further by making contractual arrangements with the producers following the traceability considerations.

Etta Mohana Rao and Sivarama Prasad (2018) has studied the export performance of Indian chilli during the year 2007-08 to 2016-17. The study concluded that during 2007-08 India has produced 1369399 Metric Tonnes of Chilli and exported 20900 Metric Tonnes which is 15.26 per cent and remaining 1160399 Chillies were consumed domestically. But there was a significant growth and development in production and exports of Chilli in 2016-17, the production was 1872010 Metric Tonnes and exported 400250 Metric Tonnes which is 21.38 per cent. India has lot of scope for development in area, production and exports of Chilli. In 2016-17 India has exported 95929 Metric Tonnes of Chilli to Vietnam which was 20 per cent of total exports. Major importers of Indian chilli are Thailand 96101 MT which is also coming as 20 per cent of total exports and other importers of Indian Chilli are Srilanka 52053 Metric Tonnes (11 per cent), Malaysia 44187 Metric Tonnes (9 per cent), USA 39172 Metric Tonnes (8 per cent), UAE 28636 Metric Tonnes (6 per cent), Indonesia is 40934 Metric Tonnes (8 per cent).

Rachna Bansal, Mohit Kumar and A. S. Shaikh (2022) in this paper examined the chillies exports in India. India is called as spice wealthy nation as its total production of spices is around 101.25 lakh tonnes from an area of about 43 lakh hectares. This study was entirely based on secondary data. During the year 2020-21, India exported 15.65 lakh tonnes of spices worth of Rs 27143.2 crores. Chilli alone accounts for 38.43 per cent in volume and 31 per cent in value to total export of spices. Exports of chilli grew from 37191 tonnes worth Rs 12246 lakh in the year 2000-01 to 601500 tonnes worth Rs 842975 lakh in the year 2020-21 with an increasing growth rate of 14.47% and 24.48 per cent respectively. China, Thailand, Sri Lanka, UAE and Bangladesh are the major buyers for Indian chillies. Destination wise export of chilli showed that China was the most loyal importer of Indian chilli with retention of 95.09 per cent while Sri Lanka showed zero retention in importing Indian chillies. India had enjoyed a

comparative advantage in chilli and NPC for chilli are less than one which clearly indicated that Indian chillies are competitive in the international market. The rigorous quality measures implemented by the Spices Board and the lower output by other competing countries like China and Pakistan had also helped India to achieve record performance.

Methodology

This paper is to evaluate the chilli export dynamics in India during the period from 2000-01 to 2024-25. For this purpose, the secondary data on India's chilli exports have been collected from Annual Reports of Spices Board, Government of India. The collected data were analyzed with the help of econometrical tools such as linear trend model and semi-log model and cuddy-della valle index model.

Results and Discussions

The value and quantity of India's chilli exports during the year 2000-01 to 2024-25 are demonstrated in the following table 1.

Table 1

India's Chilli Exports During the Year 2000-01 To 2024-25

Year	Value (Rs. in Lakhs)	Rate of Change	Quantity (in Tonnes)	Rate of Change
2000-01	22973	---	62448	---
2001-02	25244	9.89	69998	12.09
2002-03	31515	24.84	81022	15.75
2003-04	36688	16.41	86575	6.85
2004-05	49903	36.02	138073	59.48
2005-06	40301	-19.24	113174	-18.03
2006-07	80856	100.63	149022	31.68
2007-08	109750	35.74	209000	40.25
2008-09	108095	-1.51	188000	-10.05
2009-10	129173	19.50	204000	8.51
2010-11	153554	18.87	240000	17.65
2011-12	214408	39.63	241000	0.42
2012-13	238061	11.03	301000	24.90

2013-14	272227	14.35	312500	3.82
2014-15	351710	29.20	347000	11.04
2015-16	399744	13.66	347500	0.14
2016-17	507075	26.85	400250	15.18
2017-18	425633	-16.06	443900	10.91
2018-19	541118	27.13	468500	5.54
2019-20	622170	14.98	484000	3.31
2020-21	924126	48.53	649815	34.26
2021-22	858458	-7.11	557144	-14.26
2022-23	1044412	21.66	516177	-7.35
2023-24	1249248	19.61	601084	16.45
2024-25 P	1140490	-8.71	715506	19.04

Source: Spices Board, Government of India. P – Provisional Data.

The above table explains that the value of chilli export has significantly decreased from Rs.22973 lakhs in 2000-01 to Rs.25244 lakhs in 2001-02 due to global price fluctuations and import restriction, stricter sanitary and phytosanitary (like China, Vietnam, Pakistan). Then the value of chilli has tremendously accelerated from Rs.36688 lakhs in 2003-04 to the Rs. 49903 lakhs in the year 2004-05 owing to rising demand from major buyers such as Sri Lanka, Bangladesh, USA, UAE, and EU nations. But this value suddenly fell down to Rs.40301 lakhs in 2005-06 due to low production. The value of chilli exports from India has enormously increased from Rs.129173 lakhs in 2009-10 to Rs.152554 lakhs in 2010-11, again to Rs.214408 lakhs in 2011-12. Moreover, the value of chilli export from India has immensely increased to Rs.351710 lakhs in 2014-15 to Rs.399744 lakhs in the year 2015-16. The value of chilli has terrifically accelerated from Rs. 541118 lakhs in 2018-19 to Rs. 622170 lakhs in 2019-20. The value of chilli export from India has gradually decreased from Rs. 1249248 lakhs to Rs. 1140490 lakhs in the year 2024-25 due to weak demand from China, Bangladesh and Malaysia, which are among India's major buyers of red chilli. During years 2005-06, 2008-09, 2017-18, 2021-22 and 2024-25 the annual growth rates of chilli export were establish to be negative. The maximum annual growth of 100.63 per cent has been reached by the chilli exports in the year 2006-07 and it has reached minimum annual growth level of 9.88 per cent in the year 2001-02.

From the above table it is also understood that the quantity of chilli exports has significantly increased from 62448 tonnes in 2000-01 to 69998 tonnes in 2001-02 owing to growing demand in South & Southeast Asia, Middle East, and Western markets. It has tremendously decelerated from 138073 tonnes in the year 2004-05 to 113174 tonnes in 2005-06 due to low production. Then this quantity of chilli export of India has increased from 188000 tonnes in 2008-09 to 204000 tonnes in 2009-10. The

quantity of chilli export has significantly increased from 301000 tonnes in 2012-13 to 312500 tonnes in 2013-14. Moreover, the quantity of chilli export has 400250 tonnes in 2016-17 to 443900 tonnes in the year 2017-18. Then the quantity of chilli export from India has enormously accelerated from 484000 tonnes in 2019-20 to 649815 tonnes in 2020-21 due to the pandemic increased global demand for spices with medicinal and immunity-boosting properties. The quantity of chilli export from India has massively increased from 601084 tonnes in 2023-24 to 715506 tonnes in the year 2024-25 owing to Indian red chilli exports gained strong traction in China and Bangladesh, major importers, pushing up volumes. Except the years 2005-06, 2008-09, 2021-22 and 2022-23, in all other years the annual growth rate of quantity of chilli export from India has noted positive growth. The annual growth has noted maximum level of 59.48 per cent in the year 2004-05 and it has recorded lowest level of 0.14 per cent in the year 2015-16.

The regression result of India's export of chilli during 2000-01 to 2024-25 is demonstrated in table 2.

Table 2

Regression Results of India's Exports of Chilli during 2000-01 to 2024-25

Variables	Linear Model				R square
	Constant	b	t		
Value of Chilli Exports	-243610.380 (61392.031)	48206.743** (4129.675)	11.673		0.856
Quantity of Chilli Exports	-19046.470 (17976.810)	25854.922** (1209.251)	21.381		0.952
	Semi-log Model				CGR
	Constant	b	t	R square	
Value of Chilli Exports	9.963 (0.074)	0.173** (0.005)	34.780	0.981	0.189
Quantity of Chilli Exports	11.172 (0.065)	0.098** (0.004)	22.386	0.956	0.103

Source: Spices Board, Government of India.** Significant at one per cent level.

It could be understood from the Table 2 that the R square values of the exports value of chilli were detected to be satisfactory and the t-ratio values were also detected to be statistically significant at one per cent level. Similarly, the R square values of the quantity of chilli exports were detected to be satisfactory and t-ratio values were also detected to be statistically significant at one per cent level. On an average the value of India's chilli export has increased by Rs.48206.743 lakhs per year, in the same manner the quantity of chilli export has also increased by 25854.922 Tonnes per year during the study period. The annual average growth rate of value of chilli exports of India has increased by 17.3 per cent

per year, while the annual average growth rate of quantity of chilli exports has risen by 9.8 per cent per annum during the study period. The compound growth rate of value of chilli exports was detected to be higher (18.9 per cent per annum) than the compound growth rate of quantity of chilli exports (10.3 per cent per annum) during the study period from 2000-01 to 2024-25.

Conclusion

In terms of the quantity, India's chilli exports have increased remarkably between 2000-01 and 2024-25, nearly doubling from about 70,000 tonnes to over 7 lakh tonnes. This expansion demonstrates India's growing market dominance in the world's chilli market, which is prompted by growing production and rising demand international. The export value has grown more unevenly, though. Although the total value has grown over time, new data shows a disturbing trend in 2024–2025: export quantity increased by almost 19 percent, but the total value of exports decreased. These points to a decline in average export prices, which could be brought on by market excess supply, shifting consumer demand internationally, or problems with quality. All things considered, even though India has effectively increased its share of the global chilli export market, maintaining value growth will necessitate a strategic emphasis on quality, market diversification, and value-added products in order to combat price volatility and guarantee long-term profitability.

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