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Turmeric Exports from India and the Demand for Curcumin

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Abstract: ***The nutraceutical and herbal supplement industry has become more recognised after COVID. The various supplements which boost immunity and promote gut health are the need of the hour. Amongst the various Nitra and Herbal supplements, curcumin is getting the right supplement for curing various ailments. The exports of curcumin are also sluggish.***
Keywords: ***Curcumin, Turmeric, Nutraceutical, Herbal supplements, Exports, Value added.***

I. INTRODUCTION

The nutraceutical industry will have a business of 291.33 billion us dollars in 2022. The nutraceutical market comprises three Segments: functional beverages, Dietary Supplements, and functional foods. The dietary supplements include vitamins, minerals, herbal extracts and Probiotics (gminsights.com). In the current trend, nutraceutical products are available in protein powders, meal replacement powders, and powdered supplements. The nutraceutical industry's functional food Segment Provides oils, biscuits and bars, baby food, Cereals, bread, and Confectionary items. The Dietary Supplements include Vitamins and minerals, Probiotic Supplements, CBD foods, beverages and pet foods, Nutricosmetics and protein. Supplements The functional beverages include Energy and sports drinks. Capsules, tablets, liquids, powders, and gummies are the most demanding forms.

A. Nutraceutical Market in India

The Indian Nutraceutical Market Comprises Dietary Supplements, including pills, tablets, Capsules, and liquid powders, which provide vitamins, minerals and fibres. The functional food Segment adds ingredients that promote health and prevent disease. The most common ingredients found are garlic and raspberry. The functional beverage includes herbs, nootropics, minerals, fruits and Vegetable juices. The Common items include Amla, Patanjali juice, Alovera juice, etc. In 2015, the Indian nutraceutical segment had a business of 2.8 billion US dollars. In 2016-2020, the value of the business was 3.2, 3.8, 4.4, 5.2, and 6.1 billion US dollars. The compound growth rate was 17 per cent between 2015 and 2020.

B. Turmeric Production from India

The primary sources of turmeric production from India are Telangana, Maharashtra, Karnataka, Tamilnadu, Andhra Pradesh, Madhya Pradesh, and West Bengal. The production from these States were 3.13, 2.26, 1.30, 0.86, 073, 0.60, 0 45 lakh tonnes during 2022. (Spice Board 2022).

C. Turmeric Export Markets of India

A significant chunk of turmeric was exported to the United Kingdom, Saudi Arabia, Tunisia, Iran, United Arab Emirates, Morocco and the United States of America. (Agricultural Market Intelligence Centre 2021). The global production of turmeric Constitutes 82 per cent of Cultivation from India, followed by China (8%), Myanmar (4%), Nigeria (3%), and Bangladesh (3%). (APEDA, 2018). Turmeric has long been accepted as a medicine (Dr Shweta. S 2015). It was the oldest spice which Indians used in the Southern and Western parts of India, and turmeric was termed " Indian Saffron", the Golden Spice of India, “Curcuma longa”, etc., Source: Volza.Com

D. Turmeric Exports from India during 2012-2022 on Quantity and Value

The turmeric exports from 2012- 2013 were 6.54 percent. In 2013-2017-2018, the share was 5.73, 6.64, 6.47, 9.16 and 8.18, respectively. From 2012-2013 to 2014-2015, it had an increase. In 2016-2017, the quantity share increased to the maximum level. In the years 2017-2018, the quantity exported decreased. From 2018-2019, the share of quantity was 10.17, 10.03, 13.45, 11.18, and 12.45, respectively. In the years 2019- 2020, it has decreased.

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Overall, in the years 2012-2013 to 2022-2023, the growth rate was -12.35 in the years 2013-2014, -2.50 in the year 2015-2016, in the years 2019-2020 the growth rate has resulted to – 1.32, and in the year 2021-2022 the growth rate has resulted in -16.92.
The percentage value realised on turmeric exports during 2012-2013 resulted in 4.09; from 2013-2014 to 2017-2018, it was 4.72, 5.57, 7.40, 10.34 and 8.49 per cent, respectively. From 2018-2019 to 2022-2023, it has resulted in 13.08, 10.23, 12.62, 11.24, and 12.21, respectively. The growth rate of the value has resulted in a negative rate depicting -17.84 per cent, and in the years 2019-2020, it has resulted in -21.76 per cent, and in the year 2021-2022, it has resulted in -10.93 per cent.

Table – 1 Trend Projection of Turmeric Exports for 2012-2023

Year	Quantity (Tonnes)	Percentage (%)	Growth Rate	Value	Percentage (%)	Growth Rate
2012-2013	89399.88	6.54	---	55848.54	4.09	---
2013-2014	78360.18	5.73	-12.35	64441.45	4.72	15.39
2014-2015	90738.1	6.64	15.80	75991.96	5.57	17.92
2015-2016	88465.87	6.47	-2.50	101058.01	7.40	32.99
2016-2017	125116.19	9.16	41.43	141098.72	10.34	39.62
2017-2018	111774.77	8.18	-10.66	115923.54	8.49	-17.84
2018-2019	138920.39	10.17	24.29	178572.65	13.08	54.04
2019-2020	137082.15	10.03	-1.32	139707.6	10.23	-21.76
2020-2021	183868.38	13.45	34.13	172265.24	12.62	23.30
2021-2022	152757.59	11.18	-16.92	153442.05	11.24	-10.93
2022-2023	170093.85	12.45	11.35	166707.32	12.21	8.65
TOTAL	1366577.35	100.00	83.23	1365057.08	100.00	

Source: Spices Board of India

Table 2 Trend projection of turmeric exports of Turmeric during 2023-2024 to 2030- 2031.

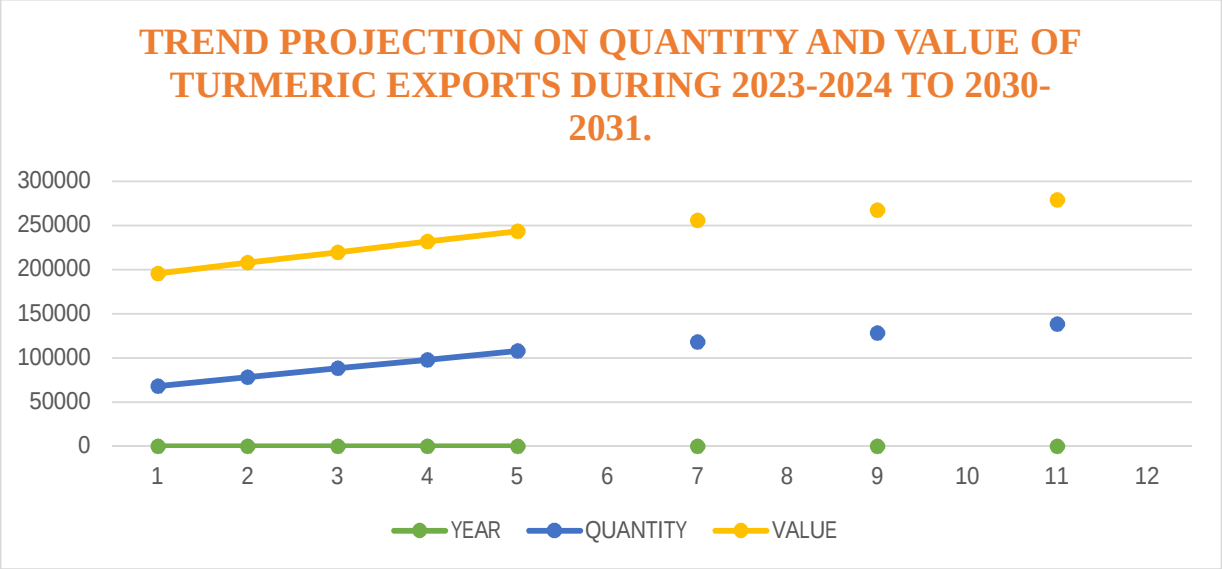
Year	**Quantity**	**Value**
2023-2024	68,082.86	195762.785
2024-2025	78,075.46	207707.23
2025-2026	88,068.06	219651.68
2026-2027	98,060.66	231596.13
2027-2028	108,053.26	243540.58
2028-2029	118,045.86	255485.02
2029-2030	128,038.46	267429.47
2030-2031	138,031.06	279373.92

An attempt was made to project the exports of turmeric from 2023- 2024 to 2030-2031, both in quantity and value. It could be seen that in the year the quantity exported was 68,082.86, and in the years 2024-2025 to 2032, it was 78,075.46, 88,068.06, 98,060.66, 108,053.26,118,045.86, 128,038.46, 138,031.06 respectively. When projecting the value during the year 2023-2024, the value realised could be 195762.785, 207707.23, 219651.68, 243540.58, 255485.02, 267429.47, 138,031.06, respectively.

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Chart- 1 Trend Projection on quantity and Value of Turmeric exports during 2023- 2024 to 2030-2031.



The trend projection of both the quantity and value has resulted in a positive trend from 2023-2024 to 2030-2031. Thus, it is proved that there is a good scope for turmeric exports to the world's countries through export.

E. Value-added Agricultural Products Exports from India

India's food and beverage market has touched a compound annual growth rate of 6.92 per cent between 2017 and 2022, and it is forecasted to touch a 9.94 compound annual growth rate in 2022 and 2027. The export of agri-food products has increased from 36.17 US dollars to 4.96 US dollars between 2014-2015 and 2022-2023. The percentage share of processed food was 13.70 per cent in 2014-2015, and it has increased to 25.60 per cent in 2022-2023. In 2015-2016 and 2012-2022, the percentage share was 16.40,14.90,18.10,19.10,22.20,22.60 per cent, respectively.

F. Herbal supplement exports from India

The exports of herbal supplements in 2015-2022 were 345.68, 364,401.68, 456.12,446.13,428.08,539.87 and 612 million US dollars, respectively. Interestingly, the global supplement market was valued at 151.78 billion euros in 2022, and India has a compound annual growth rate of 8.4 per cent.

G. The Curcumin – The New Health Supplement / Nutraceutical

Curcumin is a bright yellow chemical produced by the Curcuma large species, and it is sold as an herbal supplement.

II. EXTRACTION OF CURCUMIN

Curcumin is the component present in the roots of the turmeric plant, and therefore, it can be extracted from the root itself. Usually, it is not a very easy process to extract curcumin from turmeric. Doing this at home may require some solvents like ethanol or methanol. The easy process of extracting curcumin was to Dissolve the turmeric powder into ethanol or methanol solvent, and the turmeric powder gets absorbed in the solution, wait for one or two days to filter the solution, and after filtering, the solution using a coffee filter and remove the solids. The filtered liquid is the solution containing curcumin. Furthermore, reduce the solution by keeping it for two to three days more so that the solutions get fully evaporated, and you are left with only curcumin.

The curcumin value-added products are pills, powder, tea, gel, lotion and creams, according to Linkedin.com. Curcumin was exported mainly to Vietnam, Italy, the United States, Nepal, France, Australia, and the Netherlands. According to Sea Air Exim Solutions, the export of curcumin from ICD-Singanallur during 2016-2017 was 14,275 kilograms. From zaba.com, it was understood that a form of curcumin called curcumin 95 had an export worth of 2,761.672 US dollars. The curcumin was largely exported to the United States of America and the Netherlands, sharing 87.53 and 12.47 per cent, respectively, in the years 2016-2017. The primary discharge ports for curcumin were from Cochin, Bangalore, Mumbai, Nhava Sheva, Delhi, Coimbatore, Mundra, Patparganj, Hyderabad, and Ahmedabad.

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Table 3 – Health Benefits of Curcumin

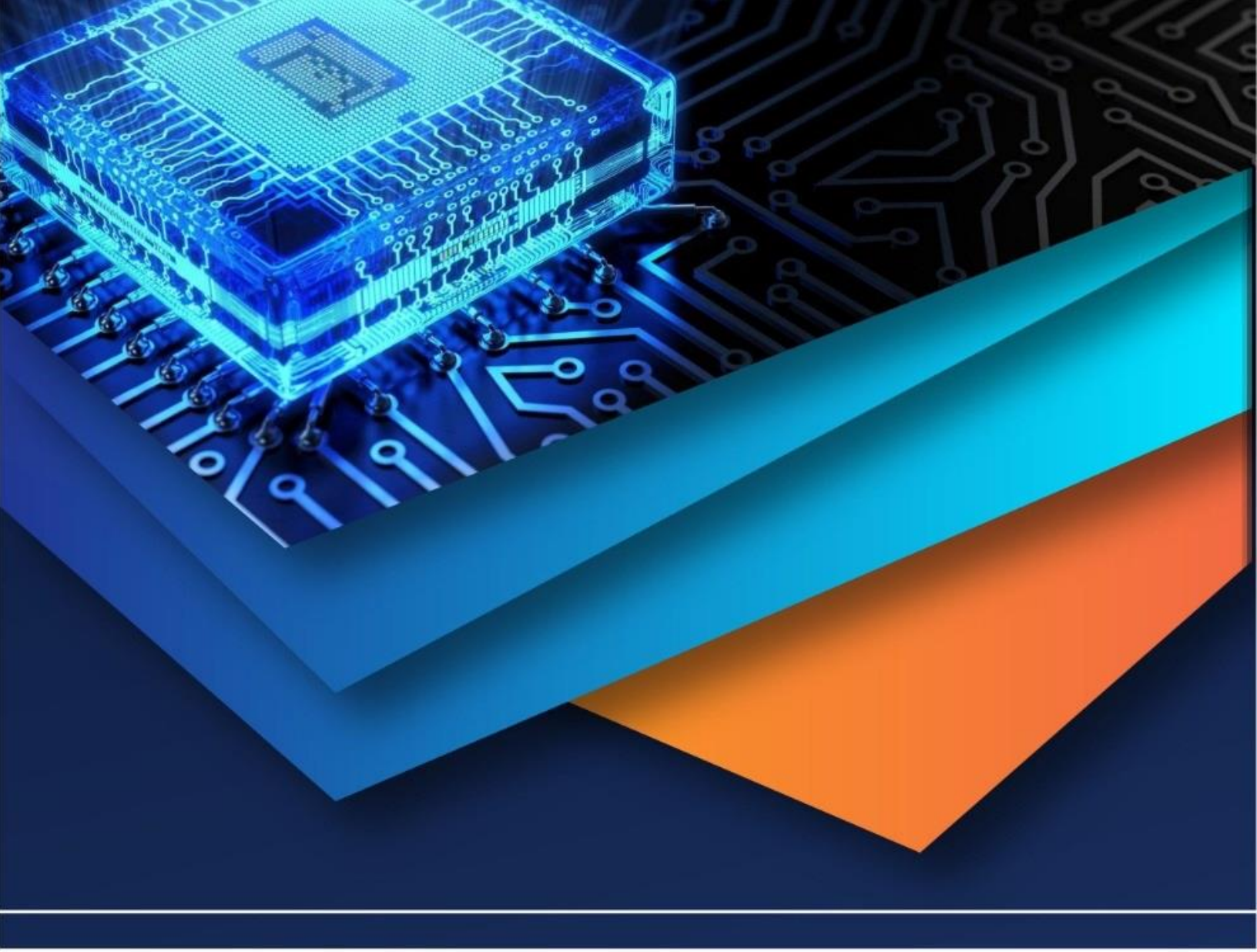
SI.NO	CURABLE DISEASE	EFFECT OF CURCUMIN
1)	Neurodegenerative diseases	Decreases the oxidation stress, inflammation and brain fat
2)	Alzheimer's disease	Prevents the formation of fibril and oligomer formation
3)	Parkinson’s disease	Prevents the formation of alpha-synuclein clumps.
4)	Brain injury	Reducing oxidative damage and formalising BDNF level.
5)	Depression	Exerting antidepressant effects on neurotransmitter systems.
6)	Brain Ischemia	Preventing ageing-associated changes in the cellular protein.
7)	Eye diseases	Protecting retinal neurons and vessels.
8)	Degeneration of age-related issues	Improving cell viability and reducing apoptosis.

III. FUTURE OF CURCUMIN

Shortly the, curcumin will be ruling the nutraceutical and Herbal supplements worldwide. The research on the process aims to control the effect of curcumin on various diseases of Gastrology, Neurology, Nephrology, and Diabetology.

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