Journal of Research Administration
Society of Research Administrators International

AN EMPIRICAL STUDY ON CHALLENGES FACED BY INDIAN SPICES EXPORTERS

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ABSTRACT

Spices have been closely connected to enchanted, cultural traditions, preservation, medicine and embalming since early human history. This study attempts to examine the export of spices from India during 2021-22 and 2022-23. This study also attempts to analyse the growth of export of spices in 2021-22 compared to 2022-23. For this purpose, necessary required for the study were collected from the 2022-23 annual report of Spices Board, Ministry of Commerce and Industry, Government of India.This study reveals that India exported 11.78 lakh tonnes of eighteen major spices valued at Rs.21, 477.81 crore during 2022-23 compared to 10,90 lakh tonnes valued at Rs.19, 481.97 crore in 2021-22 , registering an increase of 7% in volume and 9% in value. Large Cardamom, Chilli, Ginger, Coriander, Cumin, Celery, Fenugreek, Curry powders, Mint products, and other seeds have registered positive growth both in volume and value in 2022-23 compared to 2021-22. On the other hand Fennel and Nutmeg & Mace have registered negative growth both in volume and value. Small cardamom, Garlic, and other spices had positive growth in value but negative growth in volume. But Pepper and Turmeric had positive growth in volume and negative growth in value.

Keywords: Spices in India, Export of major spices, Fenugreek, Cultural traditions, Growth, instability, revealed comparative advantage, international trade, factors influencing export.

INTRODUCTION

Spices have been closely connected to enchanted, cultural traditions, preservation, medicine and embalming since early human history. India is the world's largest producer, consumer and exporter of spices; the country produces about 75 of the 109 varieties listed by the International Organization for Standardization and accounts for half of the global trading in spices.Andhra Pradesh is the largest spice producing state in India. Gujarat, Karnataka, Rajasthan, Tamil Nadu, Assam, Kerala, Madhya Pradesh, Maharashtra, Orissa, Uttar Pradesh and West Bengal are the other major spices producing states in India. Kerala is called as the “spice garden” of India as it is known for producing great varieties of spices. These spices make our food super delicious. The spices are exported from Kerala to all parts of the world; the state has become the “Spice Trade Hub”. Black Pepper is considered the 'king of spices' and rightfully so. Unlike its perennial

companion, salt, which is easily available in any nook and corner of the world, the black pepper owes its origins on Kerala.

India is known as "The origin and Land of spices". There is no other country in the world that produces as much kind of spices as India. India is dominating in producing spices due to the environmental condition. The moderate Indian climate is suitable for almost all spices grow here. In India, spices are one of the important commercial crops from the point of view of both domestic consumption and exportation. Besides, large quantities of spices are also being consumed within the country for flavouring foods and are also used in other areas like medicine, pharmaceutical, perfumery, cosmetics and the same has been exported to several other countries which increase the export ratio in the country. India has especially important place in the world spice export among all countries in the world including those which do not produce spices or spice products.Some of the southern and northern states in India are Kerala, Karnataka, AndhraPradesh, Rajasthan, TamilNadu play vital role in producing the spices. Kerala, Karnataka, TamilNadu produces pepper and small cardamom where as large cardamom is produced in the northern states like Sikkim and West Bengal. (1).

India is today in the lucky position as one of the world's biggest maker of seed spices and is a noteworthy player in the worldwide market. India has the better capability of expanding the production of seed spices yields and future prospects of their export are many. The seed spices can be developed effectively under saline/antacid water, corrosive soils, disintegrated lands, bring down ripe soils, constrained soil dampness conditions and metal contaminated soil. These seed spice flourish well under these odd circumstances as well as enhance them by following means. Some seed spices have potential for hyper gathering of salt resultant aides in recovering saline sodic soil, for example, fennel and coriander. Seed spices harvests could be effectively developed on substantial metal dirtied soils and under environmental contamination as substitutes for some other eatable yields and evacuates the apparent measure of overwhelming metals by hyper gathering (2).

The Spices Board of India works towards the development and worldwide promotion of Indian spices. It provides quality control and certification, registers exporters, documents trade information and provides inputs to the central government on policy matters. The board participates in major international fairs and food exhibitions to promote Indian spices, apart from organizing various domestic events (3). Spices Board, the statutory organization constituted on 26th February 1987, under the Spices Board Act 1986 with the merger of the erstwhile Cardamom Board and Spices Export Promotion Council under the Ministry of Commerce & Industry, Government of India, is responsible for the export promotion of the 52 scheduled spices and development of cardamom (small and large). Spices Board is the flagship organization for the development and worldwide promotion of Indian spices. The Board has been spearheading activities for the excellence of Indian spices, so as to help the Indian spice industry in attaining the vision of becoming the international processing hub and premier supplier of clean and value added spices and herbs to the industrial, retail and food service segments of the global spices

market.The mandate of the Board is primarily for promotion of export of spices and regulating the quality of spices for export (Spices Board of India).

The world literature on spices comprises of 45,455 records, out of which 17,918 records are from Asia which accounts for 39.42% of world contribution. The Indian contribution is 11,298 which accounts for 63.05% of Asian contribution.Asian countries are the major producers, marketers, and consumers of spices in the world. Hence, the research and development activity is assumed to be very high on this subject. India is one of the ancient and acclaimed Asian countries in spices.India is found to be a significant producer actively engaged in spices research particularly in mustard, chilli and peppers. Indian Institute of Spices Research (IISR) seems to be the prime producer of spices research in India as it is tops the list of prolific authors and prime institutions on spices research. There is a definite need to compile inventory of literature produced by a country on different subjects comprehensively. Such an inventory, if analyses appropriately will be an invaluable tool in the formulation of strategic directions for research and development (4).

In this study on "Export performance of spices in India: An empirical study, has found that the previous close linkage between commodity exports and balance of payments has been declining and the traditional role of commodity exports and also the emerging unfavourable conditions, for the commodity exports of developing countries, have a mixed impact on their economies. Some of the developing countries are slowly shifting from exports of raw commodities to process and semi processed commodities and intermediate manufactured goods. The above discussion is that India is performing well as far as exports of spices are concerned. .It seems that various factors appear to play a larger role determining the performance of exports. Still it has the potential to perform better under such circumstances the government should design supportive polices and development of strategies for spices exports (5).

The study on "An analytical study on the production and the growth trends of spices in India", have attempted to analyse the growth of spices production in India between 2001-02 and 2015-16. They found that the production of spices in India shown a modest growth rate over the period from 2010-2015, growing from 5350 tonnes in 2010-2011 to 6988 tonnes in 2015-2016. Trends in spice production of Indian spices are likely to increase every year after year (6), The population growth in India is surging and consumer expenditure on food is also swelling. The demand for Indian spices from the European nations is expanding. The spice industry is also showing a positive trend and the forecaster trend of spice production for the next five years would gradually increase (8). The Government is also keen on increasing value- addition in spices. It is now about eight per cent, and is expected to double in the next five years. It is observed that the future of spice industry in India is blooming and the units and the firms involved in production, processing and trading of spices will reap more benefits in future

Research problem

Research studies on export performance of various products of general consumption across the world have been superfluous. These are considered to be of mutual benefit for the producers and the consumers countries across the world. Such category includes Foods, beverages and

utilities of household consumption. However, there is one particular produce which has a greater monetary value even though it is not known for common good. Export has assumed an important place in the development process of any economy. For achieving rapid growth, a minimum of foreign exchange is necessary for a developing country like India.Spice exports from India are expected to reach US$ 3 billion by 2016–17 (Spices Board -2016) due to creative marketing strategies, innovative packaging, strength in quality and strong distribution networks (9). The spices market in India is valued at **Rs 40,000 crore** (US$5.87billion) annually,of which the branded segment accounts for 15 percent India is the largest producer,consumer and exporter of spices, with a 46 per cent share by volume and 23 per cent share by value,in the world market.The Indian spice export basket consists of around 50 spices in whole form and more than 80 products in value added form largest fruit producer in the world (10). The sustainability of Indian Spices industry is mainly depends on exports. India is now facing stiff competition from many developing countries.

Need for the study

There have been several regulations in different countries to export of agriculture commodities. These regulations have caused the reduction of spices exports. This results welfare loses in spices. Exporting countries, as a result of decrease spices production.Welfare losses include a decrease foreign revenue, in case Unemployment unfavorable terms of trade and loss of revenue to the Government.In addition, this situation increases poverty levels, and a reduction in social welfare services, which may calls unrest among they people, it is there fore very necessary to know the trends in the Export performance of spices, that can help in understanding the kind of impact it will have and its social political consequences, This study therefore attempted to find out the trends in export performance of spices from 2021-2022 to 2022-2023.

Objective

The main purpose of the study is to find out whether they have been an increase or decrease in the export of spices. The second purpose is to inter possible causes For variations in spices exports from2021-2022 to 2022-2023.

Performance evaluation

To analyse the Export performance of Indian spices has to collect the secondary data from the Spices Board, Annual Reports from 2021-2022 to 2022-2023. In this section we consider the following objectives:

- To examine the average growth of the quantity of spices
- To find out the average growth of value of spices
- To examine the functional relationship between the Value and quantity of exports

Hypothesis

In view of the proposed objectives, the researcher has formulated the following hypothesis (for the study

Null Hypothesis (H0): There is no functional relationship between value and Quantity of exports
Alternative Hypothesis(H1): There is a functional relationship between value and Quantity of Exports.

Research Methodology

Research design is the framework of the research study. It lays out the structure, procedures and data analysis of the research. In this study descriptive and analytic research design has been found to be most suitable type of research design. In this way, the trends in Export performance of Spices are described with the help of statistical tools. This study attempts to examine the export of spices from India during 2021-22 and 2022-23. This study also attempts to analyse the growth of export of spices in 2022-23 compared to 2021-22 . For this purpose, necessary data required for the study were collected from the annual report (2022-23) of Spices Board, Ministry of Commerce and Industry, Government of India. A simple growth rate was employed in this study to analyse the data.

Data Collection Method

The data used for present data is based on secondary sources. The secondary data have been collected from the publications of Indian spices Board Ministry of Commerce Government of India viz,Annual reports Brochures and Websites.

Data Analysis Technique

There searcher has used the statistical tools like Ordinary Least Squares (OLS),Regression analysis to find out region wise growth rates, and worked out find the behavior of the trade variables under the study. In addition routine descriptive statistics, like frequency,mean, Standard Deviation (SD), Shapiro-Wilk normality test were used.The computer software's used are R 3.2.1 version and MS-Excel has been used for computation. Analysis of growth rates are worked out by using the linear function and worked ou find the Behavior of trade variables under the study. The following sections discuss the result analysis of three Objectives respectively.

Results and Discussion

To achieve the above objectives, the following statistical techniques have been used: To establish the functional relationship value and quantity of the exports of spices, here fitted a linear function Y (value of species) = A+ B (Quantity of spices) as shown below table-1 and 2. In the years 2021-22 and 2022-23 order to assess trend of the export performance of spices,the average growth of Quantity in spices is 1,94,8,197.70, 21,47,781.75 tones and the average growth value of spices is 10,90,220 , 1,177,816 crore. Initially, before establishing the relationship between the value and Quantity of spices, let us find out the normality of two variables to apply a parametric or a non-parametric correlation tool. The theory states that both the variables in

correlation should be normally distributed. If any one of them is not normally distributed the Karl-pearson correlation is not appropriate (11). So it is better to apply non parametric test of correlation i.e., spearman rank correlation for better results. It is observed that both the spearman'srho and Kendall'stau are the Best tools for examining the coefficient of correlation in the absence of normality in the analyzing data.They best suit when the71 data is ordinal in nature (12).

The data has tested the normality of two variables using Shapiro-wilks test. From the p-values i.e.,0.1131,value of Quantity of Spices and 0.009871, value of species, it is clear that, one of the variables ie. Quantity of spices is normally distributed and the other ie., value of species is not. By this, it is concluded that a parametric correlation tool named Karl Pearson Coefficient of Correlation cannot be applied. Thereby, an equivalent non parametric test named Spearman's Rank Correlation is used (13). From the results, it is observed that the Spearman's Rank correlation (rho) between Quantity of Species and Value of Spices is 0.974 at 1% of level of significance. This values states that there is a strong correlation between the two variables. From this, we can state that our results do not accept the null hypothesis (H0).Therefore,its tates that there is a significant functional relationship between Quantity and Value of Spices(14). Even, Kendall's tau is also used by the paper to establish the results obtained by Spearman's Rank Correlation, as stated in the above Table 1. As there is a correlation, we can apply regression in order to examine the impact Of Quantity and the value of Spices.After running the data in R 3..1 version, the results have come up with the following regression equation, used for finding the expected values as well as for predicting the future value of species based on our exports quantity of spices (15). The following table -2 exhibits the results in detail.

y hat(V) = (-4082.99+0.021382(Q) —— Regression Equation

Table 1: **Correlations**

Test	Quantity/value	Correlation Coefficient	Quantity	Value

Kendall's tau_b	quantity	Correlation Coefficient	1.000	974**
		Sig. (2-tailed)		.000
		N	15	15
	value	Correlation Coefficient	974**	1.000
		Sig. (2-tailed)	000	.
		N	15	15
Spearman's rho	quantity	Correlation Coefficient	1.000	.995**
		Sig. (2-tailed)	.	.000
	value	N	15	15
		Correlation Coefficient	.995*	1.000
		Sig. (2-tailed)	.000	.
		N	15	15

**Correlation is significant at the 0.01 level(2-tailed).

Export of Spices from India

Export of various spices in volume and value from India during 2021-22 and 2022-23 is shown in the table-2. The table shows that India exported a total quantity of 16,100 tonnes of pepper valued at Rs.55,000 crore during 2022-23 as against 12,440 tonnes valued at Rs.567.68 crore during 2021-22, registering a growth of 19% in volume and a marginal decline of 3% in value. The reason for decline in value is mainly attributed to the decline in the global pepper prices during the year. During 2022-23, India exported 2,000 tonnes of cardamom (small) valued at Rs.425.20 crore as against 2,700 tonnes valued at Rs.355.25 crore in 2021-22, registering a decline of 25% in volume but registered a growth of 19% in value due to the high unit value realization for Indian cardamom.

During 2022-23, India exported 1,050 tonnes of cardamom (large) valued at Rs.67.00 crore as against 820 tonnes valued at Rs.60.06 crore in 2021-22. The export of large cardamom during 2022-23 registered an increase of 27% in volume and 10% in value. During 2022-23, India has

exported 4, 83,000 tonnes of chilli and chilli products valued at Rs.6,22,000 crore as against 4, 67,000 tonnes valued at Rs.5,41,000 crore during 2021-22. The traditional buyers of Indian chilli such as Thailand, Malaysia, Indonesia and Sri Lanka were active in the market.

During 2022-23, a total volume of 50,010 tonnes of ginger valued at Rs.448.05 crore has been exported as against 17,000 tonnes valued at Rs.195.00 during 2021-22, registering an increase of 176% in volume and 127% in value. The major reason for the growth in export of ginger is due to the import of huge volume of ginger by Bangladesh due to their crop loss (16).Export of turmeric from India during 2022-23 has shown an increase in terms of volume. However, due to the low unit value prevailing in the market resulted in a decline of 14% in terms of export earnings. During 2022–23, a total of 1, 35,000 tonnes of turmeric valued at Rs.1210.00 crore was exported as against 1, 32,500 tonnes valued at Rs.1415.00 crore during 2021-22. During 2022-23, a total volume of 50,000 tonnes of coriander valued at Rs.410.00 crore was exported as against 48,500 tonnes valued at Rs.351.08 crore during 2021-22, registering an increase of 3% in volume and 16% in value

Table 2; Export of spices from Indian during year 2021-2022

Sno	Spices	2021-2022 (April To March)					
		Quanity (Tonnes)	Value (Rs In Lakh)	y hat(V) = (-4082.99+0.021382(Q)	Actual Q	Expected Q	Residuals
1	Pepper	12,440	56,768	-3816.99792	56,768	-3816.99792	52951.00208
2	Small Cardamom	2700	53,525	-4025.2586	53,525	-4025.2586	49499.7414
3	Large Cardamom	820	6,006	-4065.45676	6,006	-4065.45676	1940.54324
4	Chilli	4,67,000	5,41,000.50	5902.404	5,41,000.50	5902.404	535098.096
5	Ginger	17,000	19,500	-3719.496	19,500	-3719.496	15780.504
6	Turmeric	1,32,500	1,41,500	-1249.875	1,41,500	-1249.875	140250.13
7	Coriander	48,500	35,108	-3045,963	35,108	-3045.963	32062.037
8	Cumin	1,79,200	2,88,280	-251.3356	2,88,280	-251.3356	288028.6644

9	Celery	5,700	6,540	-3961.1126	6,540	-3961.1126	2578.8874
10	Fennel	25,700	24,300	-3533.4726	24,300	-3533.4726	1103.4726
11	Fenugreek	27,100	13,826.50	-3503.5378	13,826.50	-3503.5378	9822.9622
12	Other Seed (1)	29,700	18,630.20	-3447.9446	18,630.20	-3447.9446	-1584.7446
13	Garlic	28,700	17000	-3469.3266	17000	-3469.3266	13530.6734
14	Nutmeg & Mace	3,100	15000	-4016.7058	15000	-4016.7058	10983.2942
15	Other Spices (2)	42,500	6,306	-3174.255	6,306	-3174.255	3131.745
16	Cury Powders	33,500	74,270	-3366.693	74,270	-3366.693	259396.693
17	MintProducts (3)	21,510	3,74,633.50	-3623.06318	3,74,633.50	-3623.06318	3384.43682
18	Spice Oils	12,550	2,19,000	-3814.6459	2,19,000	-3814.6459	215185.3541
TOTAL		**10,90,220**	**1,94,8,197.70**				

Source: Annual Report 2022-2023, Spices Board, Ministry of Commerce and Industry, Government of India

Note: (1) Includes Mustard, Aniseed, Ajwan seed, Dill seed, Poppy seed, etc.

(2) Includes Tamarind, Asafoetida, Cassia, Saffron, etc.

(3) Includes Mint oils, Menthol and Menthol crystal.

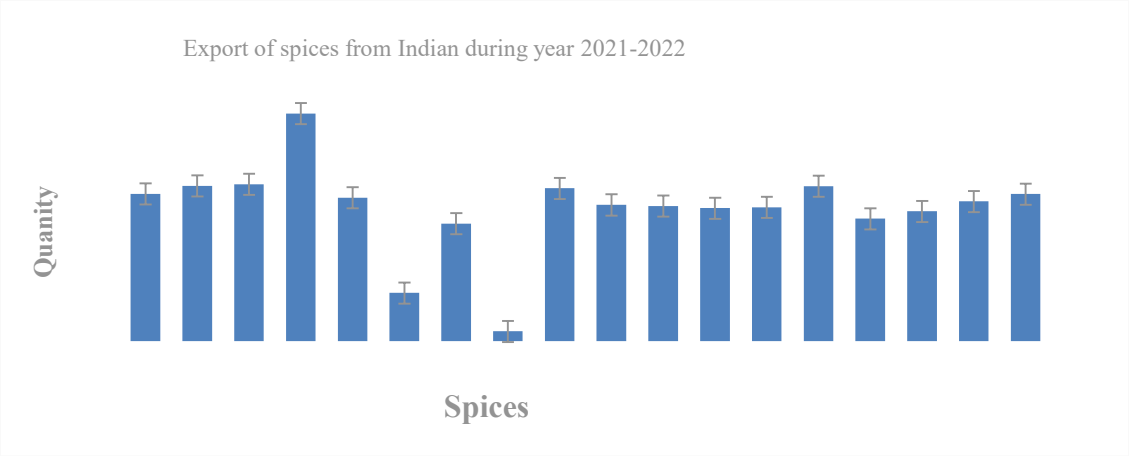


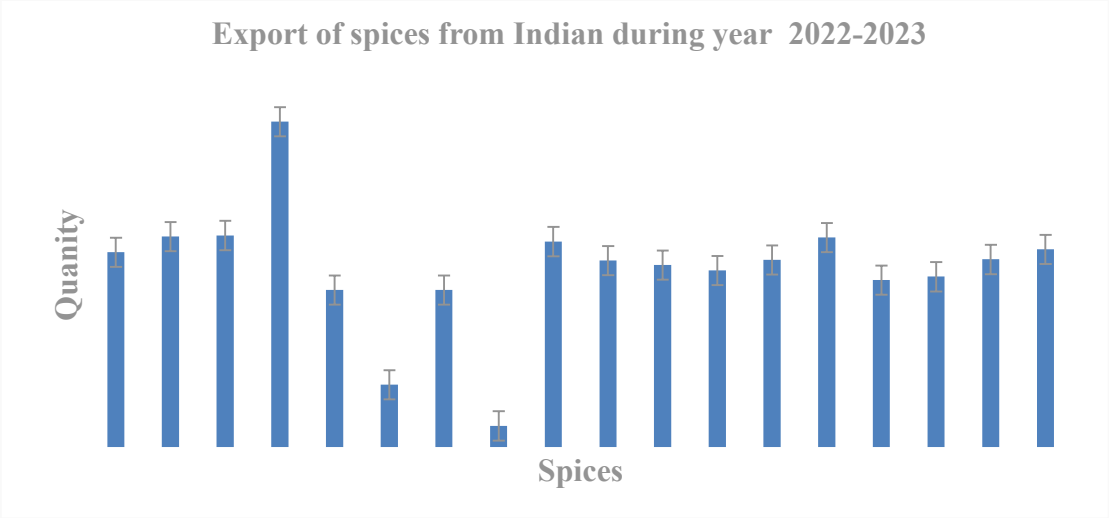
Table 3; Export of spices from Indian during year 2022-2023

Sno	Spices	2022-2023 (April To March)					
		Quanity (Tonnes)	Value (Rs In Lakh)	y hat(V) = (-4082.99+0.021382(Q)	Actual Q	Expected Q	Residuals
1	Pepper	16,100	55,000	-3738.7398	55,000	-3738.7398	51261.2602
2	Small Cardamom	2000	42,520.50	-4040.226	42,520.50	-4040.226	38480.274
3	Large Cardamom	1050	6,700.50	-4060.5389	6,700.50	-4060.5389	2639.9611
4	Chilli	4,83,000	6,22,000	6244.516	6,22,000	6244.516	615755.484
5	Ginger	50,010	44,805	-3013.67618	44,805	-3013.67618	41.791.3238
6	Turmeric	1,35,000	1,21,000	-1196.42	1,21,000	-1196.42	119803.58
7	Coriander	50,000	41,000	-3013.89	41,000	-3013.89	37986.11
8	Cumin	2,10,000	3,22,000	407.23	3,22,000	407.23	321592.77

9	Celery	6,500	7,000	-3944.007	7,000	-3944.007	3055.993
10	Fennel	23,500	22,800	-3580.513	22,800	-3580.513	19219.487
11	Fenugreek	27,500	16,200	-3494.985	16,200	-3494.985	12705.015
12	Other Seed (1)	32,500	19,100	-3388.075	19,100	-3388.075	15711.925
13	Garlic	23,000	17,200	-3591.204	17,200	-3591.204	13608.796
14	Nutmeg & Mace	2,900	13,500.75	-4020.9822	13,500.75	-4020.9822	9479.7678
15	Other Spices (2)	41,000	66,200	-3206.328	66,200	-3206.328	62993.672
16	Cury Powders	38,000	83,200	-3270.474	83,200	-3270.474	79929.526
17	MintProducts (3)	22,500	3,83,530	-3601.895	3,83,530	-3601.895	379928.105
18	Spice Oils	13,500	2,64,025	-3794.333	2,64,025	-3794.333	-3530.308
TOTAL		**1,177,816**	**21,47,781.75**				

Source: Annual Report 2022-2023, Spices Board, Ministry of Commerce and Industry, Government of India

Note: (1) Includes Mustard, Aniseed, Ajwan seed, Dill seed, Poppy seed, etc.
(2) Includes Tamarind, Asafoetida, Cassia, Saffron, etc.
(3) Includes Mint oils, Menthol and Menthol crystal.



During 2022-23, a total volume of 2,10,000 tonnes of cumin valued at Rs.3220 crore was exported as against 1,79,200 tonnes valued at Rs.2882.80 crore during 2021-22 by registering an increase of 15% in volume and 11% in value. The mandatory sampling system implemented by the Board helped to make Indian cumin more acceptable in the world market thereby achieving sustainable growth over years.The total export of fennel during 2022-23 was 23,500 tonnes valued at Rs.228.00 crore as against 25,700 tonnes valued at Rs.243.00 crore during 2021-22. The export of fennel has shown a decline of 8% in terms of volume and 5% in terms of value. The major reason for the shortfall is the short supply of fennel.

During 2022-23, a total volume of 27,500 tonnes of fenugreek valued at Rs.162.00 crore was exported as against 27,100 tonnes valued at Rs.138.26 crore during 2021-22. The export of fenugreek during 2022-23 registered an increase of 2% in volume and 16% in value. During 2022-23, India exported 38,000 tonnes of curry powder/paste valued at Rs.832.00 crore as against 33,500 tonnes valued at Rs.742.70 crore during 2021-22. The export of curry powder/paste showed an increase of 12% in quantity and 11% in terms of value.

During 2022-23, a total volume of 22,500 tonnes of mind products valued at Rs.3835.30 crore was exported as against 21,510 tonnes valued at Rs.3746.34 crore during 2021-22, registering an increase of 5% in volume and 2% in terms of value.India is the world leader in production and export of spices extracts by holding a share of more than 70% in terms of volume. The other major suppliers are China and Sri Lanka. In the case of spice extracts, India is the stable supplier to the world and our export figures have shown a continuous increase since decades.During 2022-23, the export was 13,500 tonnes of spice oils and oleores in extracts valued at Rs.2640.25 crore as against 12,550 tonnes valued at Rs.2190.00 crore during 2021-22. The export of spices extract showed an increase of 8% in volume and 20% in terms of value.

Spices Board has established the eleven Spice Development Agencies (SDAs) to promote development and marketing of spices and to enable better coordination with various states, central and allied agencies/institutions for implementing programmes for research, production,

marketing, quality improvement and export of spices grown in the state.The Chief Secretary of the concerned state is the Chairperson of SDA with seventeen members representing spice growers, exporters, traders, state horticulture/ agriculture department, state agriculture university, Joint Director General of Foreign Trade (JDGFT), Ministry of Agriculture, Ministry of Commerce, etc. The respective regional officer of the Board is the Member Secretary of the SDA (17). The SDAs have conducted meetings and actions are being taken as per the decisions of SDA. In addition to the eleven SDAs, Spices Board has established Saffron Production & Export Development Agency (SPEDA) at Srinagar for promoting development, marketing, quality, export and domestic consumption of saffron in Jammu & Kashmir. The SPEDA is co-chaired by the Secretary, Department of Commerce, Ministry of Commerce & Industry and Chief Secretary, Government of Jammu and Kashmir.

CONCLUSION

The Spices Board is responsible for the overall development of spices in terms of improving production, productivity quality and exports. The Board is also implementing post- harvest improvement programmes for production of quality spices for export. The various development programmes and post-harvest quality improvement programmes of the Board are included under the head, Export Oriented Production‟.The development programmes are implemented through the extension network of the board consisting of regional offices, divisional offices and field. The board is maintaining five departmental nurseries in the major cardamom growing areas in Karnataka to cater to the requirements of quality planting materials for the spice growers.

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