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IMPACT OF WTO ON SPICES; WITH SPECIAL REFERENCE TO PEPPER AND CARDAMOM

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India, the legendary land of spices, being an important group of agricultural commodity spices are considered as indispensible for flavoring food beverages, pharmaceuticals perfumery and cosmetic industry. Although different spices are produced in different countries of the world, India has the privilege of producing all types of spices like Black pepper, cardamom, chilies, ginger and turmeric etc thus India is regarded as the "home land of spices". Apart from the significant contribution of spices to the gross national product of the country, they are also earning substantial amount of foreign exchange. India's share of world spices trade is estimated as 47.9 percent by volume and 42.7 percent by value in 2009-10. During the crop year 2010-11 the country produced about 5350.47 thousand tons from 2940.39 thousand hectares of area under spices. The states like Rajasthan, Kerala, Andhra Pradesh, Karnataka and Gujarat are predominant in the cultivation of spices. India is not only the largest producer but also the largest consumer of spices. The major portion of spices of our production i.e., 90 percentage absorbs by our domestic market and only 10% is exported to rest of the countries in the world.

Due to the intrinsic qualities Indian spices flavour foods in over 130 countries and their intrinsic values make them distinctly superior in terms of taste, colour and fragrance which fascinated westerners and enjoyed a premium preference in the international market. The countries like USA, Canada, Germany, Japan, Saudi Arabia, Kuwait, Bahrain and Israel are the main markets for Indian spices. North America (USA and Canada) and Western Europe are the most important regions having the import demand for many of the spices. Mexico continues to be the major importer of cinnamon and cassia while Saudi Arabia, Bahrain, Kuwait and Israel are the major

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markets for green cardamom, black pepper, ginger and turmeric. We have near monopoly in spice oils and oleoresins and Indian spices have obtained geographical indicators such as Malabar pepper, Alleppey Green Cardamom, Coorg Green Cardamom and Naga chilli. The estimated growth rate for spices demand in the world is around 3.19%, which is a shade above the population growth rate.

Due to consumer resistance to the chemical activities at present spices are important now-a-days as a source of natural colours, flavours, antioxidants. In the emerging nutraceutical and wellness industries, spices could play a pivotal role with their health promoting and health beneficial effects. However our growth in spices export is remarkable the demand for organic products is steadily increasing in the western markets at 20-25% every year and that of organic spices is about 2%. The medicinal value of spices is getting attention. Value added spices like encapsulated spices; oils and oleoresin are assuming significance in view of convenience. With the reported use of spices oils and oleoresins in soft drinks, food and medicines demand for Indian spice oils and oleoresins is bound to shoot up. Thus it is clear that India possesses many innate advantages over other spice producing countries by its large genetic base, varied soil and climatic conditions, and skilled human power.

In addition to this, the establishment of WTO in 1995 and mushrooming regional/ preferential and bilateral trade agreements among nations at present are also influencing the trend and pattern of international Trade. Hence each and every country has to think of the prospects of its trade sector with the rest of the world. The present study attempts to examine the origin and growth of spices trade in India the performance of spices trade with special emphasis on black pepper and cardamom, the problems and prospects of the spices trade, the impact of World Trade Organisation agreements and India's Free Trade agreements on spices trade etc.

Objectives of the study

Given the above spices scenario in the country to explore in detail the various factors affecting the production and productivity of spices with special emphasis to the factors affecting trading of spices crops, the following objectives have been chosen in the study

- To study the trend in area, production, productivity of pepper and cardamom.

- To study the trade direction and magnitude in export of pepper and cardamom.
- To assess the opportunities and challenges of production and export of these crops.
- To analyze the overall impact of reforms on spices during the post globalization period.

Methodology of the Study

This study is based on secondary data and the main sources of data were Spices Board, India and the Data Base of FAO. The other sources were Department of Economics and Statistics, Directorate of Areca nut and Spices Development and International Pepper Community. Various issues of Economic Review, Economic Survey, Spices Export Review, Annual Reports of Spices Board India and Annual Reports of the Cochin Chamber of Commerce and Industry were also used for the study.

Performance of Black Pepper and Cardamom in India

The role of other spices like ginger, chilly, turmeric, garlic, seed spices and tree spices in domestic and international rate are comparatively very small with respect to pepper and cardamom. Before revisiting the domestic and global changes areas in production, productivity and trade of spices as a whole, let us first analyze the area, production, productivity and trade of individual spices especially pepper and cardamom in the pre-reforms, reforms and post-reforms period .The period before 1995 may be regarded as pre-reforms period, and after 1995 post-reforms period.

Black pepper is a prominent spice in the spice industry; it is rightly called as king of spices. More than 95 per cent of the global output of black pepper is confined to six nations viz. India, Indonesia, Brazil, Malaysia, Thailand and Vietnam. Till 1990's India reigned supreme in production and export of pepper, now it stands second to Vietnam in production and export. India contributes 10.8% of total world export share of pepper where as Vietnam contributes 30%of total share. The shortage of supply of these product caused unprecedented changes in the domestic and international prices so it causes major changes in demand level also. This trend tends to change the area of production, productivity and export of pepper. Kerala is the leading pepper producing state in the country. Kerala accounts for more than 95 percent of the total area

under pepper cultivation as well as output .Karnataka is the second largest state in black pepper production, with the share of more than 2 per cent of the total output in the country.

1.1 Black Pepper in India during pre reform period(Area under cultivation, Production, Production And export)

Year	Area under cultivation (in hectares)	Production (In 000t)	Productivity Kg/hect	Export (Qty in tones)
1985-86	125.12	34.00	271.74	37620
1986-87	132.81	31.34	235.98	37083
1987-88	149.93	48.09	320.75	41011
1988-89	160.74	44.16	274.73	36908
1989-90	171.49	55.19	321.83	34650
1990-91	173.43	47.95	276.48	29985
1991-92	184.20	52.01	282.36	20535
1992-93	189.39	50.76	268.02	23821
1993-94	190.99	51.32	268.71	48743
1994-95	**193.27**	**60.74**	**314.28**	**37264**

Source: Spices Statistics, Spices Board

1.2 Black Pepper in India during post reform period (Area under cultivation, Production, Production And export)

Year	Area under cultivation (jn hectares)	Production (In 000t)	Productivity Kg/hect	Export (Qty in tones)
1995-96	198.03	61.58	310.96	26244
1996-97	180.26	55.59	308.39	47893
1997-98	181.5	57.33	315.82	35907
1998-99	239.8	75.70	316.00	34864
1999-00	195.6	59.00	302.09	42824

2000-01	**213.9**	**63.67**	**297.70**	**21830**
2001-02	219.4	62.44	284.62	22877
2002-03	224.4	71.70	321.57	21609
2003-04	233.4	73.20	313.70	16635
2004-05	228.3	73.00	320.00	14150
2005-06	260.2	92.83	356.72	17363

Source: Spices Statistics, Spices Board

Cardamom enjoys an enviable commercial value in the global spice market which actually constitutes the second most important spice of India, rightly judged as "Queen of spices". Till 1983, India was the world's largest producer and exporter of cardamom. But towards the end of 1980's, Guatemala emerged as the leading producer and exporter of Cardamom, with 97 percent share of global export. Now India is the second largest producer with an average production of 11000 to 12000 metric tonnes. Kerala is the major cardamom producing state followed by Karnataka and Tamil Nadu.

1.3 **Cardamom in India during pre reform period (**Area under cultivation, Production, Productivity and export)

Year	Area under cultivation (in hectares)		Production (In 000t)		Productivity Kg/ha		Export (Qty in tones)	
	Small	Large	Small	Large	Small	Large	Small	Large
1985-86	95.37	22.37	5.60	4.42	58.72	197.59	3272	383
1986-87	93.80	22.47	5.23	4.48	55.76	199.38	1447	195
1987-88	95.61	22.18	4.43	4.84	46.33	208.80	270	155
1988-89	92.33	23.73	4.24	4.44	45.92	187.10	787	464
1989-90	97.17	24.04	4.92	5.20	50.63	216.31	173	716
1990-91	93.82	24.34	4.83	4.73	51.48	194.33	400	1077
1991-92	93.35	24.37	4.79	4.73	51.31	194.09	544	910
1992-93	70.53	26.15	4.38	4.83	62.10	184.70	190	1255
1993-94	74.79	26.12	6.44	4.43	86.11	169.60	387	1797
1994-95	**74.00**	**26.27**	**6.42**	**4.24**	**86.76**	**161.40**	**257**	**1293**

1.4 **Cardamom in India during post reform period (**Area under cultivation, Production, Productivity and export)

Year	Area under cultivation (in hectares)		Production (In 000t)		Productivity Kg/ha		Export (Qty in tones)	
	Small	Large	Small	Large	Small	Large	Small	Large
1996-97	75.52	26.47	7.29	5.32	100.52	200.98	226	1628
1997-98	67.79	26.55	6.26	5.39	92.34	203.01	370	1648
1998-99	66.60	18.40	7.00	2.00	105.11	108.70	476	1288
1999-00	66.40	18.40	8.10	2.60	121.99	141.30	676	1185
2000-01	**66.00**	**26.40**	**9.10**	**5.40**	**137.88**	**204.55**	**1545**	**1506**
2001-02	65.20	29.90	9.90	7.90	151.84	264.21	1031	1577
2002-03	65.89	23.80	10.27	5.20	155.87	218.49	682	1450
2003-04	66.01	29.60	10.46	6.50	158.46	219.59	757	924
2004-05	65.74	29.70	10.20	6.40	155.16	215.49	650	950
2005-06	66.07	29.70	11.34	6.40	171.64	215.49	875	1060

Source: Spices Statistics, Spices Board

1.3 Total Production and Share of Pepper and cardamom in the Total Spice Exports from India

Item	1997-98				2002-03				2006-07			
	Qty	%	Value	%	Qty	%	Value	%	Qty	%	Value	%
Pepper	35907	14.8	49635	33.84	21609	8.18	17887.98	8.57	28750	7.69	30620	8.56
Cardamom (S)	370	.15	1267	.86	682	.26	4707.42	2.25	650	.58	2236	1.10
Cardamom (L)	1648	.68	1264	.86	1450	.55	2057.08	.96	1500	.40	1695	.47

Source: Spices export review 2006-07: Spices Board

With reference to above table it is clear that the area of production, productivity and export is increased in post reform period comparatively lesser than the pre reform period. In the post WTO regime are a major challenge which is being faced by our spice industry market becomes increasingly competitive, the open market policies have impressed stiff competition for spice products in the international market many competing countries are in the spices trade with the opening of international market (Table 1.4). Though India is the homeland of many spices, productivity level of these crops is very low. Separate strategies have to be formulated and planning need to focus natural, biological, environmental, sustainability, research, value addition and development factors for large and small holders so as to make this sector more competitive and more profitable.

Table 1.4 Competing countries with India in production and export of pepper and cardamom

Black pepper	Indonesia, Brazil, Malaysia, Thailand, Sri Lanka,Vietnam, China (P.R), Madagascar, Mexico
Cardamom	Guatemala, El Salvador, Indonesia, Malaysia, Papua,New Guinea, Sri Lanka

Ever increasing labour cost, increasing input cost, lack of mechanization, Lack of proper market information/intelligence /buy back guarantee pose and low cost production technologies are other major setback in spices production. The prevailing gap between potential yield and realized yield even with modern scientific technologies is very wide. Trade illiteracy and legal illiteracy among farmers also pose serious threats to spices trade. A major effort is needed to bridge this gap in productivity. In India, even the gap between national average and the realizable yield is very wide. In pepper, it is around 2445 kg/ha, in cardamom 1625 kg/ha national average is 290 kg/ha and 120 kg/ha respectively. Bridging this gap is sufficient to increase country's production many fold.

Though there is higher demand for organic production in the world market. The cost of certificating of organic produce is prohibitively high and beyond the capacity of an average Indian farmer. This has to be brought down to a reasonable and affordable level. Import of low grade, low grade, low priced produce from other countries to India and re export under Indian

label may destroy the quality image of Indian spices in the international market and may detrimentally affected the demand of the same in future.Considerable efforts will have to go to improve the present post harvest processing and storage systems and in educating the farmers and traders in handling/process the produce hygienically. Other than this major risk factors involved in production are

- Emergence and epidemics of pests and diseases
- Vagaries of monsoon resulting in drought
- Shifting of interests of growers to more profitable/less risky crops.
- Adulteration of spices
- Cyclic market fluctuations at international and national level
- Lack of awareness about pesticide residues and mycotoxin contaminants in the products and lack of MRL and ADI standards in some of the pesticides used in spices etc.

OPPORTUNITIES

- Increasing demand for spices and its value added from globally
- Scope for crop improvement especially to develop genotypes resistant to biotic and a biotic stresses and also responsive to low input management through conventional breeding and biotechnological approaches.
- Public - private industry partnership to identify potential problems and workable solutions like large-scale multiplication of quality planting materials of released varieties with strict quality regulation and certification
- Identification of varieties which can adapt to climate change and also management strategies to mitigate the ill effects of climate change. Popularizing the soil conservation/water management technologies and encouraging organic farming and IPM approaches at community level will help in sustaining the production and productivity of spices.
- Potential for establishment of cooperative movement to regulate production and marketing to increase competitiveness of Indian products in the international market.
- Employment opportunities for trained manpower in spice industry and spice farming.

- There is substantial scope for value addition and diversification in spices. Considerable efforts will have to go to improve the present post harvest processing and storage systems and in educating the farmers and traders in handling/process the produce hygienically.
- The envisaged increase in share of value added products in the export basket of spices needs strengthening of processing facilities.
- Spices are increasingly being noticed for their pharmacological activities and therefore their potential as a functional food has magnified scope. The scientific validation of the medicinal properties of spices using state of the art technology like drug modelling, molecular biology and nanotechnology holds great promise and will provide greater avenues for medicinal uses of spices.

Conclusion

India has a worldwide reputation as the only country which produces almost all kinds of spices and it is through these spices exports the country earns the much needed foreign exchange over a long period of time. The demand for Indian spices and its products are ever increasing both in the internal and external markets. Although there is tremendous importance of spices, it is rather unfortunate that the sector has not achieved the required level development because of many problems in the marketing, supply chain, exports, pre and post-harvesting activities. Also exporters overseas are struggling. This requires costly quality management systems and training of farmers. A targeted effort is needed to include poorer households in value chains: organizational development, technical upgrading, management skills and access to financing are all required.

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