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EXPORT TRADE AND PRICE VARIATIONS OF PEPPER IN INDIA

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India needs considerable foreign exchange to invest in the various developmental activities of the country so as to accelerate the rate of economic progress. This can be achieved by increasing exports and decreasing imports. A large part of the foreign exchange is obtained through the export of agricultural commodities among which spices form an important group. Pepper contributes about 47 per cent of the total export earnings of spices.¹ Nearly 80 per cent of the production of pepper is exported.² Hence pepper is one of the most important crops from the standpoint of export earnings.

Uses

Pepper is an indispensable ingredient in the preparation of sauces, soups and curries which form a part of the daily diet of a large section of the world's population and specially so of the oriental countries. It is one of the three important ingredients widely used in the preparation of Ayurvedic medicines in India. It is also used for the preservation and pickling of meat and fish, in the canning of fruits and vegetables and bakery and confectionery industries. To some extent it is used in the preparation of scents.

Production of Pepper in General

The production in India, Indonesia, Saravak and Ceylon accounts for 90.79 per cent of the total world production during the year 1962 (Table I). Indonesia accounted for 69.82 per cent whereas India contributed about 17.96 per cent of the world production in 1935-39. Indonesia was the leading country which singly contributed substantially more than the production of all other countries in the world put together. After the World War II Indonesia lost its leading position in the production of pepper because of the large scale destruction of the vines during the war and India emerged as a leading world producer of pepper. Since then India has maintained its leading position. In 1962, India produced as much as 41.82 per cent as against Indonesia's contribution of only 24.88 per cent of the total world production. As may be noted from Table I, within a span of 27 years India's production of pepper has nearly doubled and its share in the world's production has more than doubled, whereas Indonesia's production declined considerably over the years. The production of pepper has also increased in Saravak and Ceylon and has declined in Cambodia during the same period. Brazil made a beginning with a meagre production of 230 metric tonnes in 1950 and stepped up its production to 4,080 metric tonnes in 1962. At present India ranks first in the production of pepper as compared to any other country in the world.

* This is a joint paper irrespective of the order of the authors' names.

1. P. K. Venugopalan Nambiar, "Four Fold Rise in Pepper Yields from Panniyur-1," Spices Export Promotion Council Seminar on Pepper (Report and Recommendations), August, 1967, p. 29.
2. *ibid.*, p. 5.

TABLE I—TREND IN WORLD PRODUCTION OF PEPPER FROM 1935 TO 1962

('000 metric tonnes)

Year	India	Indonesia	Saravak	Ceylon	Cambodia	Brazil	Madagascar	World
1935-39 (average)	15.01 (17.96)	58.33 (69.82)	2.40 (2.87)	2.27 (2.72)	4.199 (5.97)	— —	0.27 (0.32)	83.55
1947-49 (average)	31.30 (80.52)	2.40 (6.18)	0.32 (0.82)	2.49 (6.41)	1.09 (2.81)	— —	0.27 (0.69)	38.87
1950	30.93 (66.26)	7.89 (16.90)	0.32 (0.69)	4.31 (9.23)	1.50 (3.21)	0.23 (0.49)	0.36 (0.77)	46.68
1951	31.07 (71.59)	3.76 (8.66)	1.18 (2.72)	4.17 (9.61)	1.00 (2.30)	0.55 (1.04)	0.41 (0.94)	43.60
1952	22.23 (54.69)	6.80 (16.73)	4.08 (10.04)	4.81 (11.83)	1.00 (3.46)	0.55 (1.35)	0.41 (1.01)	40.65
1953	22.13 (48.39)	5.74 (12.55)	9.16 (20.03)	5.52 (12.07)	1.18 (2.58)	0.68 (1.49)	0.36 (0.79)	45.73
1954	25.40 (39.21)	15.15 (23.39)	15.69 (24.21)	5.13 (7.92)	0.82 (1.27)	0.91 (1.40)	0.59 (0.91)	64.78
1955	26.40 (37.57)	17.87 (25.44)	16.65 (23.70)	5.75 (8.19)	0.68 (0.97)	1.22 (1.74)	0.59 (0.83)	70.25
1956	27.94 (34.46)	23.50 (28.99)	20.14 (34.84)	5.22 (6.44)	1.22 (1.63)	1.36 (1.68)	0.59 (0.73)	81.07
1957	25.00 (33.56)	23.63 (31.72)	14.20 (19.06)	6.21 (8.34)	1.45 (1.95)	2.31 (3.10)	0.59 (0.79)	74.49
1958	25.91 (39.86)	17.33 (26.66)	9.89 (15.22)	5.74 (8.83)	1.54 (2.37)	2.88 (4.40)	0.59 (0.91)	65.00
1959	26.72 (38.76)	19.10 (27.71)	8.60 (12.48)	7.84 (11.37)	1.60 (2.32)	3.37 (4.89)	0.60 (0.87)	68.93
1960	28.45 (36.80)	26.00 (33.63)	7.26 (9.39)	8.12 (11.15)	1.99 (2.58)	3.90 (5.04)	1.11 (1.41)	77.31
1961	28.36 (37.03)	24.00 (31.33)	8.17 (10.67)	8.17 (10.67)	1.63 (2.13)	4.99 (6.51)	1.27 (1.66)	76.59
1962	30.49 (41.82)	18.14 (24.88)	9.39 (12.88)	8.17 (11.21)	1.27 (2.74)	4.08 (5.60)	1.36 (1.87)	72.90

Source : (1) Food and Agriculture Organization of the United Nations: *Spice Trends in World Markets*.

(2) Commonwealth Economic Committee, *Tropical Products* (Quarterly).

Note : Figures in brackets indicate percentage to the total.

Production of Pepper in India

The area, production and yield per acre of pepper in India from 1949-50 to 1966-67 are given in Table II. The area under pepper has increased by 29 per cent from 1,96,000 acres in 1949-50 to 2,52,600 acres in 1966-67. There has been a consistent increase from 1949-50 to 1959-60 after which it has remained almost stable. The crop is mainly concentrated in Kerala, Madras, Mysore and Pondicherry.

TABLE II—AREA, PRODUCTION AND YIELD PER ACRE OF BLACK PEPPER IN INDIA

Year	Area		Production		Yield per acre		
	(in '000 acres)	Index	(in '000 tonnes)	Index	(in kgs./acre)	Index	
1949-50	..	196.0	100.0	21.34	100.0	108.9	100.0
1950-51	..	197.0	100.5	21.34	97.2	108.3	96.7
1951-52	..	202.0	103.0	23.37	107.5	115.7	104.4
1952-53	..	201.7	103.0	22.86	102.8	113.3	99.8
1953-54	..	207.6	106.1	23.88	113.3	115.0	106.8
1954-55	..	212.3	108.1	26.82	127.7	118.2	118.1
1955-56	..	219.6	112.2	28.05	132.6	127.7	118.2
1956-57	..	220.9	112.8	27.85	131.6	126.1	116.7
1957-58	..	230.7	117.8	26.93	128.2	116.7	108.8
1958-59	..	231.0	118.0	26.01	127.2	112.6	107.8
1959-60	..	231.0	118.0	26.01	127.2	112.6	107.8
1960-61	..	253.8	129.5	28.46	134.8	112.1	104.1
1961-62	..	253.2	129.4	28.36	134.4	112.0	104.2
1962-63	..	251.7	128.9	26.01	123.9	103.3	96.1
1963-64	..	253.3	129.4	24.50	116.3	96.7	89.9
1964-65	..	253.9	129.1	24.02	113.9	94.6	88.2
1965-66	..	252.6	129.2	23.25	111.1	92.0	86.0
1966-67	..	252.6	129.2	22.98	109.8	90.9	84.9

Sources : (i) Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India; (i) Area, Production and Average Yield per Acre of Principal Crops in India ; and (ii) *Agricultural Situation in India*.

Note : Figures for the year 1966-67 are final estimate and for the years subsequent to 1962-63 are partially revised.

The production of pepper has increased only by 9 per cent from 21,340 metric tonnes in 1949-50 to 22,980 metric tonnes in 1966-67. Hence, the increase in area is more than proportionate to that of production during the same period.

The yield per acre has declined from 108.9 kgs. in 1949-50 to 90.9 kgs. in 1966-67, *i.e.*, by nearly 15.1 per cent. The yield per acre has shown an increasing trend from 1949-50 to 1955-56 but since then it has shown a consistent declining trend.

Exports and Export Earnings of Pepper

Exports from India have increased from 15,072 tonnes in 1951-52 to 21,785 metric tonnes in 1966-67. Except for the year 1951-52 the exports have varied very little during the years from 1952-53 to 1958-59. Exports have reached a high level of 21,181 tonnes in 1959-60. There is very little variation in the quantities exported from 1960-61 to 1964-65. However, exports have increased considerably during the year 1965-66 and have fallen considerably in the next year. On the whole, there is an increasing trend of exports from 1951-52 to 1966-67.

The value of exports has a different story to tell. It has fallen from Rs. 23.14 crores in 1951-52 to Rs. 11.85 crores in 1966-67, *i.e.*, by nearly 50 per cent. The value of exports has consistently declined from 1951-52 and has reached a trough in 1958-59. It has picked up in 1959-60 and has varied little up to 1964-65 but since then it has again increased.

Exports of pepper from India to different zones indicate that they have increased in European, Middle East, East Asian and African zones and have decreased in Australian, Oceanic and American zones (Table III). Among the countries in the European zone, exports to the United Kingdom have declined and have increased to the European Common Market and East European countries. Exports to other European countries have not shown an appreciable difference between 1951-52 and 1966-67. However, a declining trend has been observed in these countries from 1951-52 to 1959-60 after which it has shown an increasing trend. Among the Middle East countries, exports to Egypt, Aden, Sudan and Kuwait have increased. A number of countries have started importing from India from 1961-62 though to a small extent. In the East Asia and the African zones, a number of countries have started importing in small quantities since recently. In the American zone, exports to America have decreased considerably, whereas exports to Canada have increased. Development of refrigeration and the use of substitutes in the preservation of food articles are the important reasons for the fall in the imports of some of the developed countries.

Imports of Pepper by Selected Countries and the Share of India

U.S.A., Canada, and Italy obtain a large portion of their imports from India (Table IV). The U.K., West Germany, Malaya and France obtain a negligible portion of their imports from India. The share of imports from India to U.S.A., Malaya, Canada and Italy during the years from 1955 to 1962 has increased and those to the U.K. has decreased.

TABLE III—EXPORTS OF PEPPER FROM INDIA TO DIFFERENT ZONES OF THE WORLD

(metric tonnes)

Years	European zone	Middle East zone	East Asia zone	African zone	Australia and Oceanic zone	American zone	Total export from India	Value of total export from India (Rs. crores)
1951-52 ..	5,684	298	196	168	81	8,645	15,072	23.14
1952-53 ..	3,147	198	173	174	25	8,751	12,468	15.84
1953-54 ..	3,724	331	705	177	14	3,037	12,988	12.83
1954-55 ..	1,932	361	1,068	34	4	10,621	14,020	6.97
1955-56 ..	4,992	172.5	742	6	1	7,369	13,282	4.70
1956-57 ..	6,430	438	687	124	4	7,250	14,933	3.39
1957-58 ..	7,748	654	529	55	4	4,526	13,515	2.72
1958-59 ..	6,605	704	201	28	—	4,380	11,918	2.57
1959-60 ..	9,229	4,956	535	592	—	10,329	21,181	8.17
1960-61 ..	10,647	1,117	973	110	6	4,316	17,169	8.48
1961-62 ..	9,296	981	975	187.2	1	10,128	21,620	8.07
1962-63 ..	9,966	1,445	1,193.1	358.4	0.5	7,900.3	20,868	6.57
1963-64 ..	12,196	1,465	1,211	492.8	0.1	3,511.8	18,935	5.89
1964-65 ..	11,516	775.7	1,174.1	550.5	0.1	3,347.2	17,381	6.79
1965-66 ..	15,575.3	1,868.2	881.4	868.5	48.5	7,062.7	26,305	11.10
1966-67 ..	13,683.1	1,273.3	384.1	992.8	40.5	5,411.0	21,785	11.85

Source : Department of Commercial Intelligence and Statistics, *Monthly Statistics of the Foreign Trade of India*, Calcutta.

European zone : United Kingdom, E. C. M. countries, U. S. S. R., Czechoslovakia, Yugoslavia, Poland, German Democratic Republic, Rumania, Bulgaria, Hungary, Sweden, Norway, Denmark, Austria, Spain, Greece, Turkey, Iceland.

Middle East zone : Egypt, Syria, Iraq, Iran, Jordan, Saudi Arabia, Aden, Libya, Ethiopia, Sudan, Kuwait, Lebanon.

East Asia zone : Nepal, Afghanistan, Pakistan, Ceylon, Burma, Hong Kong, Malaya, Singapore, Philippines, Japan.

African zone : Tanzania, Kenya, Zanzibar, etc.

Australian zone : Australia, New Zealand, Fiji Island.

American zone : U. S. A., Canada, Mexico, etc.

TABLE IV—IMPORTS OF PEPPER BY SELECTED COUNTRIES AND SHARE OF INDIA TO TOTAL IMPORTS

	(metric tonnes)							
	1955	1956	1957	1958	1959	1960	1961	1962
U. S. A. ..	16,010 (41.9)	17,990 (36.1)	15,850 (24.0)	17,280 (20.9)	17,040 (19.4)	18,200 (52.7)	16,000 (33.5)	17,940 (53.5)
U. K. ..	2,800 (10.9)	3,760 (2.7)	3,260 (6.2)	3,360 (0.6)	3,400 (1.2)	3,810 (4.8)	3,470 (2.0)	3,140 (4.8)
West Germany..	3,117 (3.3)	4,061 (11.2)	3,707 (9.6)	3,575 (24.2)	3,819 (2.3)	2,955 (2.7)	4,087 (1.5)	4,468 (3.6)
Federation of Malaya ..	25,450 (1.0)	3,380 (—)	33,230 (0.9)	32,210 (0.8)	46,980 (0.9)	33,800 (0.6)	26,570 (1.3)	18,460 (3.2)
Canada ..	1,324 (53.1)	1,360 (51.5)	1,409 (49.6)	1,405 (53.4)	1,324 (79.3)	1,509 (50.4)	1,424 (53.4)	1,718 (66.4)
Italy ..	1,274 (51.8)	1,733 (67.3)	1,314 (69.6)	1,711 (77.2)	1,845 (68.8)	1,726 (89.7)	3,046 (75.8)	2,055 (81.2)
France ..	1,928 (0.5)	2,041 (1.0)	3,071 (—)	1,845 (0.5)	1,970 (—)	2,132 (7.2)	2,368 (—)	3,315 (—)

Source : (1) F.A.O. : Trade Yearbook. (2) F.A.O. : Spice Trends in World Markets. (3) *Monthly Statistics of the Foreign Trade of India*.

Note : Figures in brackets indicate percentage share of imports from India.

Prices

Prices of Indian pepper are much higher than those of other countries. This affects the Indian exports adversely. Prices of pepper in the three main producing countries, viz., India, Indonesia and Saravak are given in Table V.

TABLE V—PRICE OF BLACK PEPPER IN A FEW PRODUCING COUNTRIES

(in rupees/kg.)

Year	India	Indonesia	Saravak
1951	17.89	10.8	3.75
1952	15.98	12.7	2.94
1953	13.59	10.8	2.59
1954	7.81	6.2	1.40
1955	4.81	3.2	0.81
1956	3.76	2.3	2.61
1957	2.73	1.0	2.43
1958	2.71	0.7	2.19
1959	3.25	0.7	3.11
1960	5.67	4.0	5.76
1961	5.24	3.9	4.20
1962	4.30	3.1	3.47
1963	3.30	2.3	3.17
1964	4.11	—	3.44
1965	4.83	—	4.20
1966	5.77	—	5.32

Source : (1) United Nations : *Economic Bulletin for Asia and the Far East* (converted into rupees). (2) F.A.O. : Spice Trends in World Markets. (3) (London Market Price) Commonwealth Economic Committee.

Prices of pepper in India are much higher than those in Indonesia and Saravak. Prices in India have declined from Rs. 17.89 per kg. in 1951 to Rs. 5.77 per kg. in 1966. Prices in Indonesia have also declined from Rs. 10.8 per kg. in 1951 to Rs. 2.3 per kg. in 1963 whereas prices in Saravak have shown an increase from Rs. 3.75 per kg. in 1951 to Rs. 5.32 per kg. in 1966. Though prices have registered a fall in India, still they are much higher than those in Indonesia and Saravak.

Prices of pepper are characterized by their wide fluctuations which create a feeling of instability and risk to farmers and hence do not encourage the improvement of cultivation of this crop. To examine as to whether the price fluctuations are a peculiarity of this crop or are a common feature among all the spices, coefficients of variation of the prices of these commodities over the years 1950 to 1960 have been worked out (Table VI). Since the prices were available only for the commodities included in the analysis, comparisons of price variations with those of other spices could not be made.

TABLE VI—VARIATION OF PRICES OF PEPPER COMPARED TO THOSE OF OTHER SPICES IN INDIA DURING THE YEARS 1950-1960

Spices	Average price (Rs./kg.)	Coefficient of variation (per cent)
Pepper (Malabar black)	.. 8.57	67.35
Nutmeg	.. 1.90	72.04
Mace	.. 4.63	45.86
Cardamom (Alleppey green)	.. 4.88	19.67
Ginger (Cochin)*	.. 0.44	27.27

* In case of ginger the period considered is only 7 years commencing from 1954.

Source : Public Ledger, London (Taken from F.A.O. : Spice Trends in World Markets.)

The results indicate that except in the case of Nutmeg, prices vary more violently in pepper than among other spices.

With a view to knowing whether this violent price fluctuations are a special feature in India or are common to other countries, the coefficients of variation of prices of pepper in different countries during the years 1950 to 1960 have been worked out (Table VII).

TABLE VII—VARIATION OF PRICES OF PEPPER IN DIFFERENT COUNTRIES (BASED ON PRICE INDICES) DURING THE YEARS 1950-1960

Countries	Coefficient of variation (per cent)
India	67.35
Cambodia	20.15
Indonesia	66.77
Saravak	75.61
Singapore	82.32

For want of absolute figures regarding the average prices of pepper in different countries, the coefficients of variation of prices have been worked out on the price indices. The results indicate that prices do not vary much in Cambodia. The variations of prices in Indonesia are almost the same as those in India. In Saravak and Singapore, the price variations are much higher than those in India. This indicates that price variation is not a special feature of India but is common in most of the countries and is worse in some other countries than in India.