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Impact Of WTO On Banana Export From India

Dr.S.Manoharan

(Associate Professor, Department of Business Administration, C.N.College, Erode)

(Mail id: manohar_sun65@yahoo.com)

Abstract

With the liberalization of Indian economy and establishment of World Trade Organisation (WTO), it was expected that the WTO regime would increase the price level of the agricultural commodities in the international market. It is due to the implementation of substantial cut in agricultural subsidies by the developed countries which will enable the export of banana to get a boost. Under this backdrop, the study has ascertained the effect made on the banana export from India by the WTO establishment. The study period 1980 to 2009 was divided into two period, viz., before the establishment of WTO (1980 to 1994) and after the establishment of WTO (1995 to 2009). There was significant growth in the quantity of banana exported and export value during Pre-WTO and Post-WTO periods, and an insignificant increase in unit value of banana exported from India during Pre-WTO period and Post-WTO period. Instability index shows that the fluctuation in terms of export quantity came down during the Post-WTO period, whereas, the fluctuation in terms of export unit value has increased during the Post-WTO period. The study has indicated that the immediate attention of policy makers as well as researchers in India to improve the export competitiveness by increasing the productivity and decreasing the cost of production. A need has been emphasized on giving some export incentives and easing some of the infrastructural bottlenecks. The banana export from India can be made stable by encouraging big export houses in the banana export and establishing a "Banana Board" to look into various aspects of banana export from the all over India.

Keywords: APEDA, NHB, WTO, FAO, AGR, CGR.

1. Introduction

Being a good source of vitamin C, $B_{6,}$ and, A as well as have a high content of carbohydrates/fibre, with low in proteins and fat-free, banana is one of the essential daily diets of the people in the world and mainly consumed as fresh fruit. Being a source of potassium, banana is recommended by doctors to reduce depression, anaemia, restoring normal bowel function, constipation and diarrhoea, eyesight protection, strengthening the bones, maintaining healthy kidneys, blood pressure, treating heart ailments, heartburn, curing

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a hangover, overcoming nervous disorders, reducing morning sickness, improving nerve functions and many more. At the same time to achieve higher productivity levels, high quantities of external inputs as pesticides, fungicides and other agrochemicals to fight diseases and pests. Water pollution in the rivers as well as under the ground is a concern in the banana production. Therefore, there is a demand for more organic and fair-trade bananas. India lies in the banana production belt of the world, having suitable climatic conditions for its production. India's share in world banana production was 27.6 percent and in world export was not even one percent in 2009.

2. Review of Literature

Chand *(*1997) in his Policy Paper on "Import Liberalization and Indian Agriculture - The Challenge and Strategy" reported that imports to India would not be attractive in the case of rice, tea, sunflower oil and cotton and the situation could turn favourable for imports of wheat and maize depending upon domestic and international supply positions. There was a strong possibility of a rise in imports of sugar and edible oils after removal of Quantitative Restrictions, which would exert downward pressure on the domestic prices of these commodities.

Suratha Nayak **(**2000) in his study on "Trade Liberalization and India's Agricultural Export", studied the export competitiveness and determinants of India's agricultural exports during 1970-71 to 1996-97. The official exchange rate is concerned. It was found that India possessed both comparative and competitive advantage than in exporting non-traditional commodities. The commodities which possessed export competitiveness included fine cereals, coffee, oil cakes, fresh fruits, processed fruits and vegetables, spices, processed dairy products and marine products. The commodities which did not possess comparative and competitive advantage included tea, sugar and edible oil

Sadeesh and et al., (2007) in their study on "An Economic analysis – Export Performance of Indian Spices" observed a higher growth rate in Pre-WTO period (1980-81 to 1994-95) and Post-WTO period (1995-96 to 2003-04) with magnitude of growth coming down in quantity, value and unit value (in dollar terms) in the Pre-WTO period and with the exception of unit value in rupees, it indicated a significant reduction in instability in the export. They emphasized the need for increasing the production through advanced technology, development of market infrastructure, storage, warehousing and transport.

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3. Statement of the Problem

The World Trade Organization (WTO) is an intergovernmental organization that is concerned with the regulation of international trade between nations. The WTO officially commenced on 1 January 1995 under the Marrakesh Agreement, signed by 123 nations on 15 April 1994, replacing the General Agreement on Tariffs and Trade (GATT), which commenced in 1948. It is the largest international economic organization in the world. The Agreement on Agriculture (AoA) under WTO came into force on 1 January 1995. The AoA prescribes rules in the areas of market access (tariffs and non-tariff quotas), domestic support (production- related subsidies) and export competition (export subsidies, export credit and international food aid). These three elements are commonly referred to as the 'Pillars' of the agricultural trade reform. The AoA gave hopes to the developing nations due to the reduction in tariffs and some discipline on subsidies on agriculture. With the liberalization of Indian economy and establishment of World Trade Organisation (WTO) and enforcement of AOA, it was expected that there would be increase in the export of banana from India to the developed nations. Hence, this study.

4. Objectives of the Study

The specific objectives of the study are:

a. To examine the export trade of banana in India.

b. To ascertain the effect of establishment of WTO on export of banana from India and

c. To suggest suitable strategies to boost banana export from India.

5. Data and Methodology

Time series data on export quantity, export value and unit value of banana exported from India were collected for a period of 30 years from 1980 to 2019 from National Horticulture Board Statistics (NHB), Food and Agricultural Organisation of the United Nations (FAO) and APEDA web site. The study used before and after approach to analyse the impact of WTO on export performance of Indian banana. The total period was divided into two, viz. 1980 to 1994 (Pre-WTO) and 1995 to 2009 (Post-WTO). The basic statistics, such as arithmetic mean and standard deviation to know the average status and stability in the

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export of banana. Annual Growth Rate was used to know the growth of export over the years. Compound Growth rates were estimated using the logarithmic function for comparing banana export before and after WTO. To study the variability Coefficient of variation was used.

a. Compound Growth Rate

The compound growth rate was calculated by using the exponential growth function of the form,

$Y = ab^t e_t$

Where,

Y= Dependent variable for which growth rate is to be estimated, a= Intercept, b= Regression co-efficient, t= Time variable, e= Error term. Compound growth rate was computed using the relationship

r = (Antilog of b - 1) x 100

b. Coefficient of Variation

CV= (SD/AM) * 100

Where,

C.V. = coefficient of variation, SD = standard deviation, AM = arithmetic mean

c. Annual Growth Rate

The Annual Growth Rate (AGR) was calculated using the formula.

$$AGR = \frac{Y_2 - Y_1}{Y_1} X\ 100$$

whereas, Y_2 = current year value, Y_1 = previous year value

6. Results and Discussion

Mean, Standard Deviation, Coefficient of Variation, Annual Growth Rate and Compound Growth Rate of Export Quantity, Export Value and Unit Value of banana from India from 1980 to 2009 and Country-wise Export of banana from India between 1995 and 2009.

6.1 Export in Quantity from India in Tonnes

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Percentage, Mean and Standard Deviation of export in quantity from India in tonnes are given in the Table 1

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Table. 1 Export in Quantity from India in Tonnes

Country	**Export in Quantity from India in Tonnes and percentage**																
	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Mean**	**Std.Dev**
UAE	57	27	2906	3665	2431	4037	3431	2067	2105	2339	3477	2288	5265	10208	18644	4196.47	4650.09
	3.3	8.9	41.4	45.2	38.7	46.8	42.4	23.9	19.4	18.6	24.1	19.9	31.6	33.6	34.4		
Saudi	42	14	1410	1249	690	1216	659	746	796	794	1060	671	1912	5123	9396	1718.53	2438.07
	2.41	4.62	20.09	15.40	10.97	14.09	8.14	8.62	7.32	6.32	7.36	5.85	11.48	16.85	17.31		
Iran	0	0	0	1	0	0	139	300	125	0	566	282	22	23	5238	446.40	1335.59
	0.00	0.00	0.00	0.01	0.00	0.00	1.72	3.47	1.15	0.00	3.93	2.46	0.13	0.08	9.65		
Kuwait	9	2	275	312	245	513	474	336	330	416	729	611	916	1533	5552	816.87	1363.43
	0.52	0.66	3.92	3.85	3.90	5.95	5.85	3.88	3.03	3.31	5.06	5.32	5.50	5.04	10.23		
Bahrain	55	13	618	603	497	485	573	337	515	442	747	496	1012	1263	2890	703.07	681.09
	3.15	4.29	8.81	7.43	7.90	5.62	7.07	3.89	4.73	3.52	5.18	4.32	6.07	4.15	5.32		
Qatar	99	41	488	769	401	415	530	248	317	421	552	330	784	1347	2684	628.40	650.13
	5.68	13.53	6.95	9.48	6.38	4.81	6.54	2.87	2.91	3.35	3.83	2.88	4.71	4.43	4.95		
Oman	1	1	79	490	327	642	625	389	371	357	583	381	683	947	1977	523.53	479.44
	0.06	0.33	1.13	6.04	5.20	7.44	7.72	4.49	3.41	2.84	4.05	3.32	4.10	3.11	3.64		
Nepal	278	114	135	42	0	186	450	3144	5396	6632	5443	5495	4867	7855	6498	3102.33	3004.75
	15.94	37.62	1.92	0.52	0.00	2.16	5.56	36.32	49.61	52.75	37.77	47.88	29.21	25.84	11.97		
Maldives	6	0	51	82	54	205	154	132	202	176	287	349	830	1242	648	294.53	350.66
	0.34	0.00	0.73	1.01	0.86	2.38	1.90	1.52	1.86	1.40	1.99	3.04	4.98	4.09	1.19		
United	78	28	44	91	461	29	121	299	119	592	436	151	19	46	105	174.60	182.88
	4.47	9.24	0.63	1.12	7.33	0.34	1.49	3.45	1.09	4.71	3.03	1.32	0.11	0.15	0.19		
Others	1119	63	1012	807	1184	901	944	658	601	403	531	422	352	815	641	696.87	312.55
	64.16	20.79	14.42	9.95	18.82	10.44	11.65	7.60	5.53	3.21	3.68	3.68	2.11	2.68	1.18		
Total	1744	303	7018	8111	6290	8629	8100	8656	10877	12572	14411	11476	16662	30402	54273	13301.60	13314.73

Source: FAO Statistics

The Table.1 reveals that, U.A.E., Saudi Arabia, Nepal, Kuwait and Iran have imported 34.4 percent, 17.3 percent, 12.0 percent, 10.2 percent and 9.7 percent respectively during 2009 and the total import of banana by these countries were 83.6 percent in 2009. The percentage

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share of export to Saudi Arabia, Kuwait, Bahrain and Qatar increased continuously, but in the case of U.A.E. it increased between 1997 and 2001. Even though decreased drastically during 2002, it had started to increase from 2006 onwards.

The coefficient of variation for Iran was 299.19 percent and for Kuwait it was 166.91 percent and this indicates high fluctuation in the import of banana from India by these countries. The main importers of banana in the world are the developed countries, but India's share of export to the developed countries was negligible.

6.2 Export of Banana in Value from India in Thousand Dollars

Percentage, Mean and Standard Deviation of banana export in quantity from India in tonnes are given in the Table 2

Table.2 Export of Banana in Value from India in Thousand Dollars

Export Value from India in 1000$ and Percentage																	
Country	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Mean**	**Std.Dev**
UAE	20	9	1482	1819	1146	1894	1636	953	870	1119	2028	1378	2873	5726	9807	2184	2502.60
	2.9	7.7	43.3	44.87	38.52	47.24	46.39	36.42	34.56	39.18	38.27	38.84	45.47	44.64	36.46		
Saudi	15	6	709	664	337	591	325	329	298	327	596	393	945	2520	5016	871.4	1291.17
	2.18	5.13	20.71	16.38	11.33	14.74	9.21	12.57	11.84	11.45	11.25	11.08	14.95	19.65	18.65		
Iran	0	0	0	0	0	0	29	154	84	0	310	118	8	6	2412	208.07	615.87
	0.00	0.00	0.00	0.00	0.00	0.00	0.82	5.88	3.34	0.00	5.85	3.33	0.13	0.05	8.97		
Kuwait	3	1	146	195	156	303	262	136	131	186	452	320	450	888	3341	464.67	825.30
	0.44	0.85	4.27	4.81	5.24	7.56	7.43	5.20	5.20	6.51	8.53	9.02	7.12	6.92	12.42		
Bahrain	12	4	281	322	259	209	256	126	172	183	404	267	523	1030	2213	417.4	553.63
	1.74	3.42	8.21	7.94	8.71	5.21	7.26	4.81	6.83	6.41	7.62	7.53	8.28	8.03	8.23		
Qatar	27	13	231	370	213	223	269	108	119	205	325	193	418	736	1743	346.2	424.77
	3.92	11.11	6.75	9.13	7.16	5.56	7.63	4.13	4.73	7.18	6.13	5.44	6.61	5.74	6.48		
Oman	0	1	42	244	154	282	301	127	122	104	327	210	358	520	1088	258.67	270.80
	0.00	0.85	1.23	6.02	5.18	7.03	8.53	4.85	4.85	3.64	6.17	5.92	5.67	4.05	4.04		
Nepal	13	9	11	10	0	10	31	338	380	452	402	318	410	703	696	252.2	256.33
	1.89	7.69	0.32	0.25	0.00	0.25	0.88	12.92	15.10	15.83	7.59	8.96	6.49	5.48	2.59		
Maldives	3	0	28	43	26	79	66	38	54	49	88	94	193	323	217	86.73	89.87
	0.44	0.00	0.82	1.06	0.87	1.97	1.87	1.45	2.15	1.72	1.66	2.65	3.05	2.52	0.81		
United	65	24	43	38	172	28	76	52	93	156	229	89	12	19	63	77.27	62.80

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	9.45	20.51	1.26	0.94	5.78	0.70	2.15	1.99	3.69	5.46	4.32	2.51	0.19	0.15	0.23		
Others	530 77.03	50 42.74	450 13.15	349 8.61	512 17.21	390 9.73	276 7.83	256 9.78	194 7.71	75 2.63	138 2.60	168 4.74	129 2.04	356 2.78	305 1.13	278.53	152.80
Total	688	117	3423	4054	2975	4009	3527	2617	2517	2856	5299	3548	6319	12827	26901	5445.13	6608.40

Source: FAO Statistics

It is clear from the table.2 that, the mean value in terms of export value was at its maximum with 2184 thousand USD for UAE. The coefficient of variation for Iran and Kuwait were 296 percent and 177.61 percent respectively. On comparing the export quantity and export value, it was found that the percentage of export to UAE, Saudi Arabia, Kuwait, Bahrain, Qatar and Oman in quantity terms were 34.4%, 17.31%, 10.23%, 5.32%, 4.95% and 3.64% respectively and the percentage of export value realized from export to these countries were 36.46%, 18.65%, 12.42%, 8.23%, 6.48% and 4.04% respectively. Whereas in the case of Nepal and Maldives the percentages of export quantity were 11.97% and 1.19% and export value were 2.59% and 0.81% respectively.

From the above, it is inferred that the export to Middle East countries realized higher value than export to Asian countries.

6.3 Export Quantity, Value and Unit Value of Banana from India

To ascertain the overall growth, the Compound Growth Rate, Annual Growth Rate, Mean, and Standard Deviation were calculated for 30 years dividing the period into 1980 to 1994 (Pre-WTO) and 1995 to 2009 (Post-WTO) are furnished in the Table.3

Table.3 Export Quantity, Value and Unit Value of Banana from India

Quantity in Thousand Tonnes					Value in Thousand Dollars					Unit Value in US$			
Pre-WTO							Post-WTO						
Year	Qty	AGR	Value	AGR	Unit Value	AGR	Year	Qty	AGR	Value	AGR	Unit Value	AGR
1980	36	-	22	-	611.11	-	1995	1744	80.54	688	139.72	394.50	32.78

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1981	122	238.89	48	118.18	393.44	-35.62	1996	303	-82.63	117	-82.99	386.14	-2.12
1982	64	-47.54	42	-12.5	656.25	66.80	1997	7018	2216.2	3423	2825.6	487.75	26.31
1983	99	54.69	59	40.48	595.96	-9.19	1998	8111	15.57	4054	18.43	499.82	2.47
1984	62	-37.37	32	-45.76	516.13	-13.40	1999	6290	-22.45	2975	-26.62	472.97	-5.37
1985	118	90.32	58	81.25	491.53	-4.77	2000	8629	37.19	4009	34.76	464.60	-1.77
1986	190	61.02	62	6.90	326.32	-33.61	2001	8100	-6.13	3527	-12.02	435.43	-6.28
1987	854	349.47	107	72.58	125.29	-61.61	2002	8656	6.86	2617	-25.80	302.33	-30.57
1988	1369	60.30	150	40.19	109.57	-12.55	2003	10877	25.66	2517	-3.82	231.41	-23.46
1989	69	-94.96	27	-82.0	391.30	257.12	2004	12572	15.58	2856	13.47	227.17	-1.83
1990	290	320.29	36	33.33	124.14	-68.28	2005	14411	14.63	5299	85.54	367.71	61.87
1991	656	126.21	110	205.56	167.68	35.07	2006	11476	-20.37	3548	-33.04	309.17	-15.92
1992	1353	106.25	405	268.18	299.33	78.51	2007	16662	45.19	6319	78.1	379.25	22.67
1993	1086	-19.73	471	16.30	433.70	44.87	2008	30402	82.46	12827	102.99	421.91	11.25
1994	966	-11.05	287	-39.07	297.10	-31.50	2009	54273	78.52	26901	109.72	495.66	17.48
Mean	488.93	85.48	127.73	50.26	369.26	15.14		13301.6	165.79	5445.13	214.94	391.72	5.83
SD	504.55	135.42	143.39	96.01	183.93	82.77		13314.73	568.91	6608.4	724.97	90.55	23.68
CV	103.19		112.26		49.81			100.09		121.36		23.12	
CGR	69.62		44.67		-17.32			65.19		59.55		-3.27	
Mean for 1981 to 2009								6895.27	127.02	2786.43	135.44	380.49	10.32
Standard Deviation for 1981 to 2009								11320.94	414.74	5329.62	523.53	142.90	59.02
co-efficient of Variation for 1981 to 2009								164.18		191.27		37.56	

Source: FAO Statistics

It is observed from the above table that the annual growth rate of banana export was the highest during 1987 and the same was the highest in terms of export value during the year 1992 in the Pre-WTO period. The enormous growth rate in terms of export quantity in 1987 was due to increase in export to Nepal. The highest growth rate in terms of export value in 1997 was due to 78.51% increase in unit value.

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It is also evident form the above table that, the annual growth rate of banana export and export was the highest during 1997 with 2216.2% and 2825.6 % during the Post-WTO period. It was due to increase in export to Far East countries Viz., UAE, Saudi Arabia, Bahrain, Qatar and others.

It is also clear form the above table that the unit value trend has been fluctuating and annual growth rate was negative for many years during the period under reference but the trend was increased in the last year during 2008 and 2009. The compound growth rate for unit value were -17.32 percent and -3.27 percent during Pre-WTO and Post-WTO period respectively. It reveals that the price decrease was higher during the Pre-WTO period than the Post-WTO period.

The mean value of export quantity and export value stood at 6895.27 tonnes and 2786.43 thousand dollars respectively during the study period. On average, the export progress was lower during many years when compared to mean score. The standard deviation was 11320.94 tonnes in terms of quantity and 5329.62 thousand dollars in terms of export value. The coefficient of variation of export was 164.18 percent in terms of quantity exported and 191.27 percent in terms of export value generated from exports, shows the fluctuation in export unit value has increased during the Post-WTO period.

The export unit value of banana ranged between 109.57 and 611.11 USD per tonne during the Pre-WTO period and ranged between 227.17 and 499.82 USD per tonne. It is inferred from the above analysis that the fluctuation in export unit value was high during the period of study. From 2004 onwards, it was increasing continuously and it shows that it will increase further in the future.

There was no sign of increase in export of banana to the developed countries, even after the establishment of WTO. It indicates that the quality of banana produced in India does not meet the standards set by the developed countries. The Government of India has to take proper steps through APEDA and Department of Agriculture to the banana exporters in post-harvest handling and producing high-quality banana.

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7. Conclusions

India is the largest producer of banana in the world. More than 90 percent of India's export mainly to the Middle East countries such as U.A.E., Saudi Arabia, Kuwait, Iran, Bahrain and Qatar. The Agreement on Agriculture (AoA) under WTO gave hopes to the developing nations, to increase their agricultural export to the developed nations. Due to the unchecked increase in the quantum of agriculture subsidy offered in the developed countries and also due to rise in the use of non-tariff measures such as Sanitary and Phytosanitary (SPS) measures and Technical Barriers to Trade (TBT) imposed by the developed nations, the outcome of AoA has not been beneficial to the developing nations. During Post-WTO period, India's share of export of banana to the developed countries was negligible. Hence, there is a need to establish a consortium of banana growers, processors and exporters in India, to plan and export as per the demand in the international market, where small and marginal farmers are in the majority. To increase the export of banana from India, the firms having long term interest in banana export should be encouraged to establish big export houses and establishing a "Banana Board" by Government of India to look into the various aspects of banana export from all over India, as there is no improvement in banana export from India even after the establishment of WTO.

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