

Chapter – Four

Export of some of the major Indian agricultural commodities in the Pre & Post WTO Regime

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Chapter Four

Export of some of the major Indian agricultural commodities in the Pre & Post WTO Regime

Introduction

India with its large population of about 1.25 billion depends mostly on agriculture still today. About 58% of India's total population directly depends upon agriculture. India was among the early signatory of the WTO. The WTO is an institutional body which was formed on 1st January, 1995 with the objective of promoting global trade in a more liberalised way. The WTO came into existence after the GATT (General Agreement on Tariffs and Trade) which was formed in 1948 in place of ITO (international Trade organisation) by the Western Nations with 23 member countries and the objective of growth and development of all member countries. Since it came into existence GATT had been emphasising for the expansion and promotion of global trade by reducing tariffs and other forms of protection imposed by member countries on trade, this revamped the growth and volume of World trade substantially, which make the trade growth larger than the growth in World Production, along with this GATT helped member countries by providing framework for Trade related Disputes Settlements. This continued effort of GATT finally increased its members from 23 countries to 123 countries. But there were several limitations of the GATT which had become transparent in the early 80s. It was less effective in the settlement of conflicts and disputes between DCs and LDCs in tariff, nontariff barriers and market access. World trade became more and more complex and GATT failed to apply its principles into practice, and thereby led GATT members to have fresh round of trade negotiations. The eighth round of multilateral trade negotiations popularly known as Uruguay Round, which covered new areas like agriculture, textile, TRIMS, TRIPS, services etc. The eighth round or Uruguay Round of agreement commenced in 1986, which was to be concluded in 1990 but this could not be happened as the issues involved in it faced huge dissatisfaction among the participating countries. At the Uruguay Round, developing countries had expressed their commitments not only to reduce trade barriers, but to implement important liberalisation procedures on trade, reductions in trade restrictions & Tariff and Non-Tariff barriers and on many areas of regulation that established the basic business environment in domestic economy (for instance, TBT, SPS and IPR law). On December 20, 1991, the Director General of GATT and the Chairman of the trade negotiations committee, Arthur Dunkel, drafted a proposal which included most negotiating areas of International trade (including Agriculture, MFN, TRIPS, TRIMS, SPS, GI, CBD etc) and after almost a decade of discussion & negotiations the draft was finally accepted by 117 nations on 15th April, 1994 in Marrakesh, Morocco. This Round accepted to have negotiations in 15 areas, in part 1, negotiations on trade in goods to be concluded in 14 areas and in part 2 negotiations on trade in services. Thus this new round of negotiations also known as WTO agreement not only covers traditional GATT subjects but also new areas like Trade Related Aspects of Intellectual Property Rights (TRIPS), Trade Related Investment Measures (TRIMS) and Trade in Services etc. In this way the GATT was converted to WTO on first January 1995 as a conclusion of the Uruguay Round agreement to give encouragement and promotion global trade. Several agreements had taken place in WTO summits. Some of them like Agreement on Agriculture (AOA) are mostly important. With the implementation of the provisions of the Agreement on Agriculture (AOA) by the members of WTO, the international trade opportunities are expected to change as trade barriers are reduced and free trade takes place. These changes would also ensure that competition among the countries in producing individual product or commodity will play a major role in the international trade.

There was an institutional effort made by the GATT under Uruguay round to liberalise Agricultural trade by formalising rules under Agreement On Agriculture (AOA) which would work on reduction of trade distorting tariff & Nontariff Barriers imposed by countries on Agricultural trade. AOA emphasised on (i) **removal of QRs**, (ii) **Conversion of Non-Tariff Barriers to Tariff Barriers**, and **reduction of Domestic Subsidies to agricultural export & Tariff** on import gradually over a certain period. As the Agricultural policies are now administered by the rules under the WTO, therefore understanding the long term implications of these changed policies on domestic agricultural trade are very important to the WTO member countries like India which exercises a good amount of State influences in agricultural sector like, maintaining MSP, giving Input Subsidies, maintaining QRs, restrictions & good amount of Tariff on movement of external imports and exports, ,good amount of Public stock holding of agricultural produce , Setting Buffer Stocks etc. The provision for removal of restrictions on agricultural import was mandated like 6 years time period was for developed nations (by year 2000) and 10 years for developing nations (by year 2004). Total agricultural export is around 12% of India's total export and it is the third largest producer of agricultural commodities in the world. Though with declining agricultural growth rate along with export shows country's loss in agri-trade due to deteriorating terms of trade but today in financial year 2018 India has become the second largest producer of food grains in the world. India's gross value added by Agriculture, Fishing & Forestry combines about US \$ 274.23 billion, which is amazing. India's total food grain production in financial year 2017-18 was 279.51 million tonnes. As per govt. data India is the 2nd largest producer of fruits in the world, largest producer, consumer and exporter of Spices and Spice products in the world and sixth largest food and grocery market in the world. India's tea & Coffee production reached record 240.68 million kgs and 395000 tonnes in 2017-18 financial years, where India's total agricultural export grows at CAGR of 16.5% from financial year 2010 to financial year 2018.

4.1: Objectives of the study in this Chapter

Our objective the study in this chapter is to **compare & discuss the Export Growth, Change in Composition , Direction or Changing Destinations of Indian Agricultural Export, & Diversification of trade of major Indian agricultural Trading Commodities in the Pre & Post WTO period.**

4.2: Research Methodology

Our study which is based on the secondary data, has been divided into two time period, i.e. Pre WTO period (From 1989-90 to 1994-95) and post WTO period (from 1995-96 to 2016-17). These data has been collected from various secondary data sources which includes www.rbi.gov.in ,government data from Ministry of Agriculture & Cooperation, NSSO reports, Agricultural census data, Beauru of Economics & Statistics, CMIE and other public reports, state government department of agriculture, internet website www.wto.org, Economic survey of India, (GOI) data like Ministry of agriculture, A.P.E.D.A., FAO trade & production year books, Indian Journal of Agricultural marketing and Indian Journal of Agricultural Economics, Related data published on E.P.W.S., Ministry of commerce Government of India and various papers published on interested topics. Reference period of the study is taken from 1989-90(pre WTO period) to 2016-17 (post WTO period). We have taken 1994-95 as the cutoff date for pointing the pre and post WTO periods was the beginning of the WTO era from 1st January 1995, with the support of 123 founding members including India. This research study would discuss the comparative performance of trade of major Indian agricultural commodities during pre (1989-90 to 1995– 96) and post WTO (1995-96 to 2016 –

17) regime. It would analyze the export performance and competitiveness of major Indian agricultural commodities during pre and post –WTO regime.

Where, $NPC_i = P_i^d / P_i^w$

Where NPC_i = Nominal protection coefficient of commodity i.

P_i^d = Domestic price of commodity i.

P_i^w = World reference price of commodity i, adjusted for transportation, handling and marketing expenses.

Here, $NPC < 1$ indicates the commodity is exportable and $NPC > 1$ indicates that the commodity is importable.

The compound growth rates were worked out as follows:

In our Study we have Used **CAGR (Compound Annual Growth Rate)** to show how different exporting commodity's export growth is taking place.

The mean annual growth rate can be synonymously referred to as compound Annual Growth rate (CAGR) of growth of agricultural production or export of a specified number of years. To calculate this we first divide the last year's value of agricultural growth by initial years value of growth then raise the value to the power of 1 divided by total number of specified years and ultimately we subtract 1 from it Which can be shown as,

$$CAGR = \left(\frac{\text{Ending Value}}{\text{Beginning Value}} \right)^{(1/\text{numbers of Years})} - 1$$

Secondly,

We have used Simpson Index to show year wise diversification of Major Indian Agricultural trading Commodities. It is used taking three yearly export data together in both Pre & Post WTO period.

$$\text{Simpson Index} = D = 1 - \left(\frac{\sum n(n-1)}{N(N-1)} \right)$$

Where,

D= Diversity,

N= the values of export of all agricultural commodities in a particular year.

N=the Value of export of a particular agricultural commodity in a particular year.

The value of D or Simpson Index varies between 0 and 1, where 0 implies no diversity and 1 implies infinite diversity of that particular agricultural commodity.

Other than these, Percentage & ratio method has been used to show direction & composition of trade on yearly basis.

4.3: Limitation of the study

There exists certain limitations of the Study. Our Study is entirely based on secondary data. The data is collected from www.rbi.gov.org.in and various online and offline publications, (both Govt. & Non Govt. sources). Because of non availability of various data the objective of the study was influenced by the limited data sources.

4.4: Changes occurred after Liberalisation of Indian Agricultural trade (Including reduction & elimination of QRs and tariff rates on Imports – Exports) in the Post WTO regime.

Though the policy of import liberalization of Agricultural commodities started in the early 90s but it took faster move in the mid 90s after some major initiatives were taken at that time and liberalization policies were much intensified in the early 2000 since the Exim policy. For example decanalisation, moving of agricultural commodities from restricted periphery to more free trade area, starting of Exim policy in the early 2000, Export Promotion policy, access of more credit facilities for agricultural export, Duty exemption scheme, abolition of minimum export price, deregulation of import policies, tax exemption in agricultural export, relaxation of export quotas etc were made to accelerate the speed of export of Indian agricultural commodities. The govt. of India took initiative in export liberalization in agriculture, for example the establishing of export promoting zones, making schemes like ASIDE (Assistance to States for Infrastructure Development and Exports) and SLEPC, establishing Export promotional councils, removing restrictions on export of all cultivated varieties of seeds & pulses shows governments initiative in liberalizing export. The govt. of India showed its obligations to WTO by cutting down quantitative restrictions on most major agricultural commodity imports other than to those commodity imports which are hazardous to human health or environment. Following data shows how Indian market gradually became open to foreign imports of agricultural commodities.

Table: 4. 1: Percentage Change In Licensing of Indian Agricultural commodities

Year	Restricted	Prohibited	Canalised	Free
95-96	65	5	10	20
97-98	60	3	10	27
98-99	54	3	12	31
2000-2001	37	3	2	58
2002-2003	22	1	2	75
2004-05	16	1	2	-

Source: Ministry of Commerce, Govt. of India.

Table 4.2: Changes in Import Policy of major Indian agricultural commodities Import

Agricultural Commodities	Current Condition of Trading	Year of Delicensing or Decanalised
Pulses	Free	1980
Cotton	Free	1991
Rubber	Free	1991
Sugar	Free	1994
Palm Oil	Free	1994
Skimmed Milk & Butter	Free	1995

Edible Oil	Free	1995
Edible Oil Seeds & Castor bean Oil	Free	1999
Wheat	Tariff rates levied STE (Import through FCI)	2000
Rice	Tariff rates levied STE (Import through FCI)	2000
Milk	Free	2000
Tobacco	Free	2000
Tea	Free	2001
Coffee	Free	2001
Coconut	Free	2001
Cashew & Indian Silk	Free	2001
Soya bean & Ground Nut Oil	Free	2002

Source: Ministry of Commerce, Govt. of India.

Table 4.1 and 4.2 shows the status of Indian agricultural trade policy in the early 2000 and so on after removal of QRs and delicensing and decanalisation of many major agricultural commodities.

Table 4.3: The following Table shows the Rank of India in exporting Major agricultural commodities in the world and its current Status in Trading.

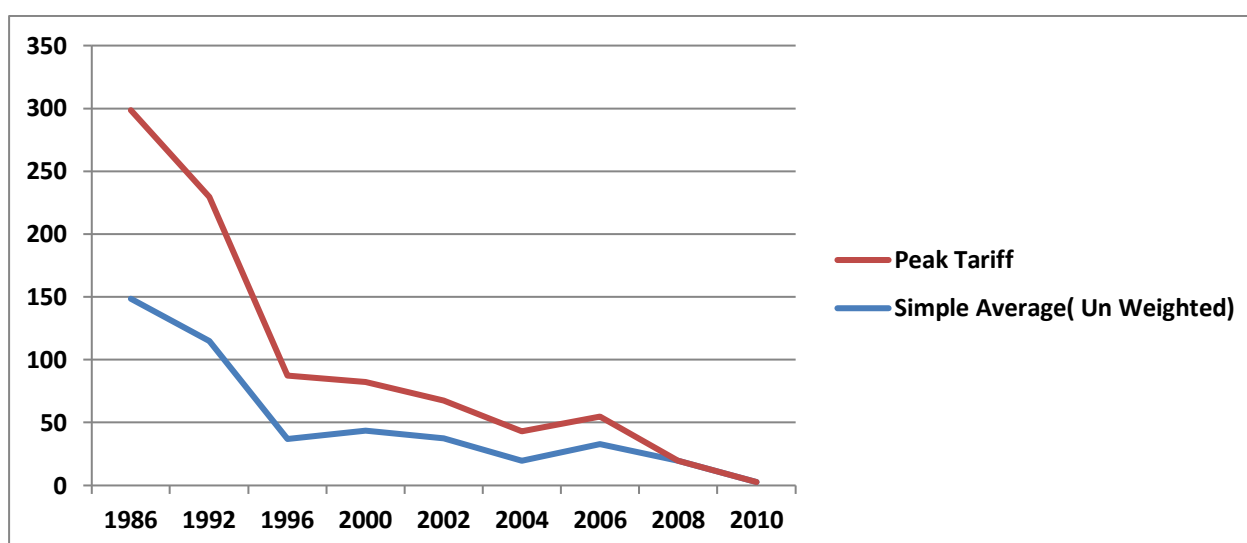
Commodities	India's latest situation in Trading	India's Rank In the World In Production.
Rice	Some Restriction is still there other than Basmati rice.	2 nd
Wheat	Restricted & subject to canalisation	2 nd
Coffee	Some restrictions on Import But export is free.	3 rd
Tea	Imports are restricted exports are free.	3 rd
Cashew	Free	Important
Sugar	Free	2 nd
Edible Oil & Oil Seeds	Free	Leading
Onion	Free	Leading
Potato	Free with a minimum restriction on Import.	Leading
Spices	Free except Ginger.	5 th
Rubber	Exports free but Imports are canalised in some cases.	Leading

Cotton	Free	2nd
Jute	Free	1st
Tobacco	Free	Important

Source: FAO statistics.

Table 4.3 shows the latest situations of Indian Agricultural trade policies and their rank in Agricultural Commodity trading after removal of quantitative restrictions of tariff and non tariff barriers. It also shows the current position of India in production of these commodities in the world level.

Figure: 4.1: Trends of Reduction of Tariff (in percentage) on Import of Indian Agricultural Commodities in the pre & post WTO periods explained graphically.



Source: Ministry of Finance, Government of India.

As per the WTO and AOA norms India gradually tapered the tariff rates. Some time India has drastically reduced (77% in 1996, 70% in 2000, 74% in 2002) the tariff. Study by Gulati & others [1] show that India has not only reduced the tariff barriers but non tariff barriers were also reduced by converting it into tariff barrier first.

Table 4.4: Changes in the Composition of Market Share in Indian agricultural Commodity trade with Liberalisation of Export in the Pre and post WTO regime:

Agricultural Commodities	Year	Market share of India in world Export (Average)
Rice	1986-1995	4.23
Sugar	1986-1995	1.17
Ground Nuts	1986-1995	3.49
Rice	1996-2016	17.26
Sugar	1996-2016	1.69
Ground Nuts	1996-2016	15.22

Source: FAO statistics

In the above table the data itself reflects that market share of India in the world export has increased by multiple times after liberalization and WTO.

Table 4.5: Percentage Change in the composition of Market Share in Indian Agricultural Commodity trade with Liberalization of Import in the Pre & Post WTO regime:

Agricultural Commodities	Year (Pre WTO)	Market share of India in world Imports (Average)	Year(Post WTO)	Market share of India in world Imports (Average)
Sugar	1986-1995	3.814	1996-2016	2.281
Rapeseed Oil	1986-1995	0.651	1996-2016	8.832
Linseed Oil	1986-1995	0.492	1996-2016	0.431
Cotton	1986-1995	0.141	1996-2016	1.122
Rubber	1986-1995	0.951	1996-2016	0.401
Jute	1986-1995	5.742	1996-2016	17.123

Source: FAO statistics

In the above tables (table 4.4 & 4.5) shows how export and Import of major Indian agricultural commodities were in pre & post WTO era. Table 4.5 shows notable changes has happened in case of Rice and Ground nuts in share of Export of India in the world level. Where in Table 4.6 we see import share of India in the World has gone up in rapeseed Oil, Cotton and jute other commodities declined (Sugar, Linseed Oil, and Rubber etc) in import share in the world level. Impact of direct policy changes is visible in case of some major export items including Rice Sugar, Ground Nuts and Cotton, Edible Oils, Rubber and Jute in case of import items.

[1] Ashok Gulati (2009): Farm sector performance and the reform agenda

Table 4.6: Percentage Change in Share of Imports & Export (Decadal Average) of Indian Agricultural commodity Trade in the World Before and after the WTO: A Comparison

Agricultural Commodities	Export		Import	
	1986-1995	1996-2011	1986-1995	1996-2011
Rubber	0.01	0.02	0.97	0.46
Rice	4.24	9.14	1.52	0.20
Paper	6.57	6.97	0.46	1.04
Coffee	2.05	2.85	0.02	0.03
Onion	10.74	10.36	3.24	2.32
Sugar	1.18	1.09	3.80	2.64
Ginger	83.27	67.25	1.98	4.65
Ground Nuts	3.48	7.92	0.44	00.65
Apple	0.14	0.19	2.5	2.78
Tobacco	5.24	4.60	0.02	0.05
Sesame Seed	5.44	12.29	-	-

Cotton	1.87	2.26	0.15	0.93
Potato	0.09	0.25	-	-
Oil of Rapeseed	0.40	0.43	0.65	8.52
Tea	19.47	13.96	0.13	0.20
Wheat	0.10	0.30	5.38	4.25
Jute	3.58	1.96	5.73	16.82
Cashew nuts	51.40	53.64	12.54	18.63
Oil of Linseed	0.33	0.36	0.49	0.39

Source: FAO Statistics

In the above Table 4.6 we can see some notable changes are seen in the case of exports of rice, Paper, jute, Ginger, groundnuts, cake of rapeseed, sesame seed and cotton. In case of Rice, the growth of it rose in export in the post WTO period. The NPC (Nominal protection Coefficient) of these agricultural commodities ($NPC = P_i^d / P_i^w$) did not move toward 1 in values in the Post WTO era which was expected to move in the Post WTO era as compare to Pre WTO era.

Table 4.7: Yearly average Growth Rates of Yield per Hectare of Major Agricultural Commodities.

Agricultural Commodities	Pre Liberalisation Period		Liberalisation & Post liberalization Period			
	1968-1985	1986-1994	1995-2000	2001-2006	2007-2012	2013-2016
Wheat	3.3	3.6	2.8	0.7	-0.3	3.0
Rice	2.7	3.0	1.4	2.1	1.2	2.2
Jowar	2.9	3.2	1.3	0.2	2.1	3.1
Bajra	6.3	8.8	6.2	4.9	7.3	8.4
Maize	1.7	4.1	2.6	3.1	-0.2	6.5
Coarse Cereals	1.5	3.1	4.3	1.3	1.7	7.3
Pulses	-0.2	2.3	1.9	-0.3	0.6	2.7
Oil Seeds	0.8	4.8	3.3	0.4	3.5	5.4
Cotton	2.6	5.3	3.1	-6.3	19.4	3.9
Sugarcane	3.1	1.3	0.4	0.3	0.7	0.5

Source: Ministry Of Agriculture, Govt. of India 2015-16.

From the above table we can see other than Wheat, rice and sugar growth rates of other major agricultural commodities has shown positive trends including jawar, Bajra, Maize, Coarse Cereals, Pulses, Oil Seeds, Cotton etc in the Post WTO period.

Table 4.8: Compound annual Growth Rates (CAGR) of Exports of major agricultural trading Commodities in India.

Major agricultural Commodities	Pre WTO	Post WTO	Major Change
	1986-1995	1996-2016	
Sugar	-0.5	22.4	Increased
Coffee	12.8	6.2	Decreased
Tea	9.2	6.3	Decreased
Rice	-7.2	8.4	Increased
Wheat	24.8	4.1	Decreased
Tobacco	7.5	13.2	Increased
Cashew	12.4	6.4	Decreased
Spices	11.7	16.4	Increased
Fish	18.1	8.4	Decreased
Fruits & Vegetables	6.6	18.4	Increased

Source: Ministry Of Agriculture, G.O.I.

In table 4.8 we can see the major Indian agricultural trading commodities like Tobacco, Spices, Sugar, Rice, Fruits & vegetables have shown much higher growth rates in Post WTO period and Tea, Coffee, Cashew nuts, Fish, Wheat have shown lower growth momentum in post WTO period as compared to Pre WTO period.

Table 4.9: Comparison of Pre & Post WTO period in Average Annual Growth Rates of Major Indian Agricultural Commodities in Yields per Hectare:

Agricultural Commodities	<u>Pre Liberalisation Period</u> 1981-1991	<u>Early Liberalisation Period</u> 1991-1997	<u>Post 1998-2004</u>	<u>Liberalisation 2005-2011</u>	<u>Period 2012-2017</u>
Wheat	3.6	2.8	0.7	-0.3	3.0
Rice	3.0	1.4	2.1	1.2	2.2
Jowar	3.2	1.3	0.2	2.1	3.1
Bajra	8.8	6.2	4.9	7.3	8.4
Maize	4.1	2.6	3.1	-0.2	6.5
Coarse Cereals	3.1	4.3	1.3	1.7	7.3
Pulses	2.3	1.9	-0.3	0.6	2.7
Oilseeds	4.8	3.3	0.4	3.5	5.4
Cotton	5.3	3.1	-6.2	19.4	3.9
Sugarcane	1.3	0.4	0.3	0.7	0.5
Crops & Livestock	3.3	3.3	2.6	2.5	3.8

Source: Ministry Of Agriculture, G.O.I.

In table 4.9 growth rates in (gross value of output) yield per hector of major Indian agricultural commodities has been forecasted with Comparison has been made between Pre & Post WTO eras. The major finding is 1. Growth of output in Crops & livestock's has been found much higher in Post WTO period as compare to Pre WTO period (example- Particularly 11th five year plan the growth rate was 3.8 % average per annum). 2. Food grains, Oil seeds, Fibers grew much faster than expectation in the post WTO period from Pre WTO period. But Growth of Forestry was much slower.

Table 4.10: Export Performance of Indian Major Agricultural Commodities in the Last Few Years (Quantity in Metric Tonnes)

Year Wise Export Performance Of Major Indian Agricultural Trading Commodities	Total Quantity	Money Value ((Rupees in Crores)
2010-11	1,15,67,563.11	42,437.45
2011-12	1,98,10,216.80	83,485.29
2012-13	3,01,72,968.00	1,18,254.78
2013-14	3,00,01,358.04	1,36,920.07
2014-15	2,71,32,966.78	1,31,333.48

General Findings: Import & Export growth rates Major Indian Agricultural Commodities (1995-2016)

High/Increasing Export & Import		Low/Declining Export & Import	
Agricultural Commodity Exports	Agricultural Commodity imports	Agricultural Commodity Exports	Agricultural Commodity Imports
Rice, Cashew, Tobacco, Groundnuts Soya bean, Potato, Spices Banana, , Cashew and Pepper,Cotton	Oil Meals, Wheat, Sugar, Edible oils, Jute, Ginger, Tobacco	Tea, coffee, Wheat, Marine Products, rapeseed, Cake of sesame, Cotton	Sugar, Fruits Rice, Rubber and Linseed oil

Source: Ministry of Commerce & Industry, G.O.I.

Table 4.10 shows that Export in agricultural commodities in India during the year 2010-11 to 2014-15. The agricultural commodities exports of India were increased to Rs 1,36,920.07 crore in 2013-14 from Rs 42,437.45 crore in the year 2010-11. Which shows Export Growth rates of agricultural commodities were high in India after 2012-13. India has become a good food grain exporter today as compare to pre WTO period.

Table 4.11: A Comparison of Indian agricultural Export Performance in all Agricultural Commodities (Money Value is expressed in US Dollar in millions).

Year Wise Comparison Of Indian Agricultural Export.	Total Agricultural Export of all Agricultural trading Commodities
<i>Pre WTO</i>	
1980-81	7885
1984-85	9645
1987-88	9883
1990-91	18145
1992-93	18537
1994-95	26331
<i>Post WTO</i>	
1996-97	33470
1999-2000	36822
2002-2003	52719
2005-2006	103091
2008-2009	185295
2009-2010	178751
2012-2013	2,30,141

Source: Government of India, Economic Survey.

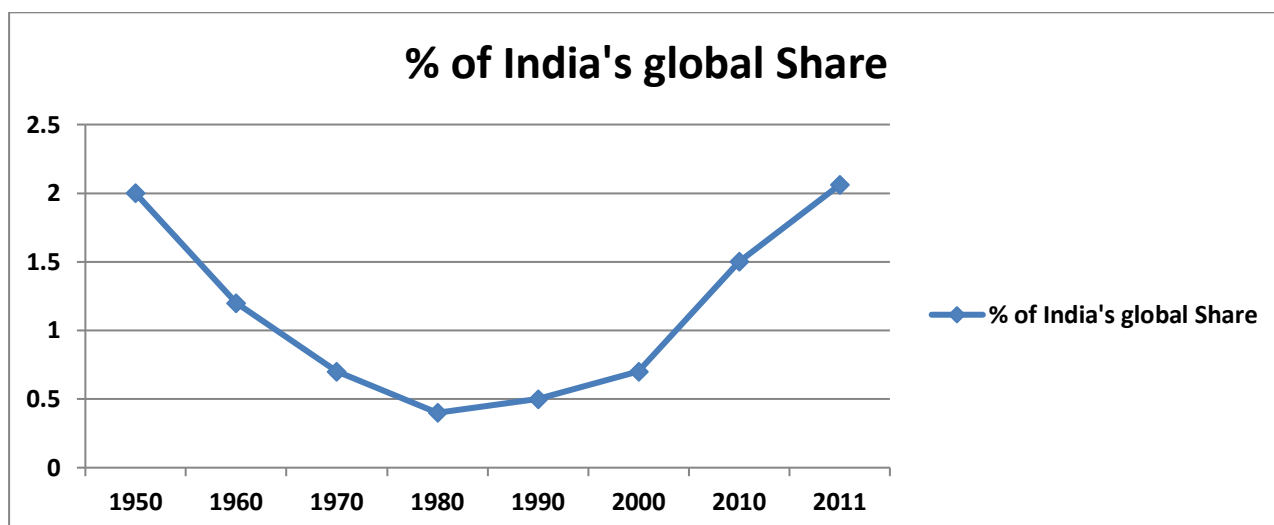
The above table explains that the annual growth of exports has increased to **9.5 %** in the post-WTO period from on an average of **-2.8** per cent during pre-WTO period. The total Indian Export had increased to US \$ 50163 million as compared to US \$ 27242 million during pre WTO period. So from the above table it is clear that the impact of WTO on export of agricultural commodity is positive.

Table 4.12: Percentage of India's Share in agricultural export globally (Decadal average)

Year	1950	1960	1970	1980	1990	2000	2005	2009	2010	2011
% of India's Share	2.0	1.2	0.7	0.4	0.5	0.7	0.8	1.5	1.69	2.06

Source: Agricultural Data, Indian Five year plan book.

Figure 4.2: Percentage of India's Share in agricultural export globally (Decadal average) explained graphically.



The above graph shows Percentage of India's Share in agricultural export globally

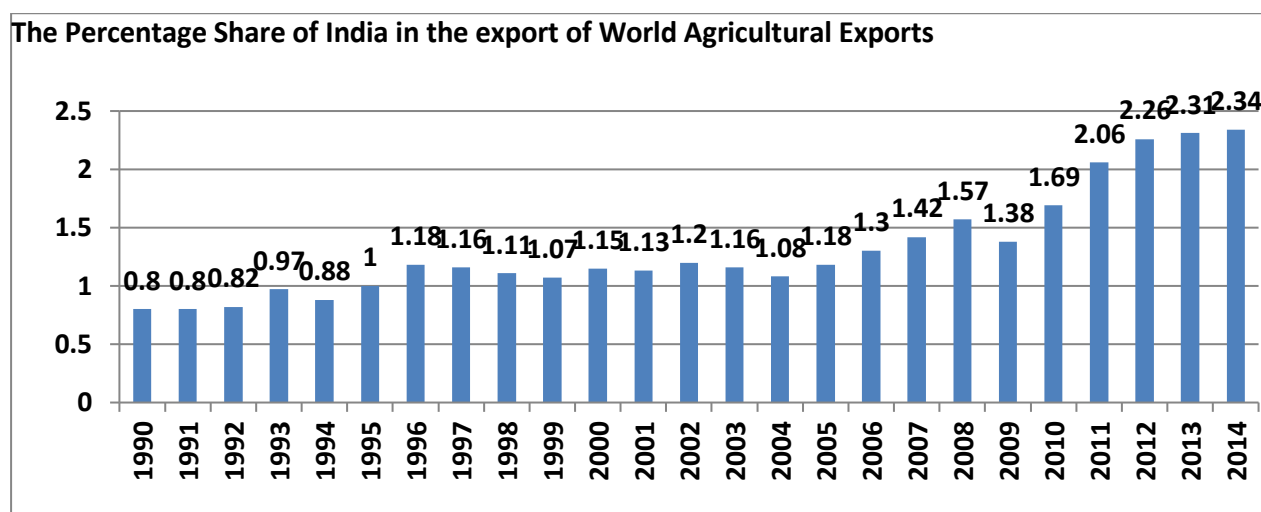
If we compare Pre & Post WTO era on percentage share of Indian Agricultural export on decadal basis we can see from the above table that though initially after independence India's share was 2% in the global export but gradually it declined and became less than 0.5% in the pre WTO period but it rose sharply in the Post WTO regime to 1.5 % in the 11th five years plan.

Table: 4.13: Latest Agricultural Export & Import of India of 2017 (in US\$ million)

Agricultural Commodities	Value of Export 2017	Agricultural Commodities	Value of Import 2017
Rice	5461	Palm Oil	5122
Meat & Meat products	2994	Dried Leguminous Vegetables	2696
Cotton	923	Soya bean Oil	2135
Cashew & Coconuts	800	Sun-flower & Cotton Oil	1344
Fruits & Vegetables	767	Cashew nuts, Coconuts	1156

Source: WTO data (Stat.wto.org)

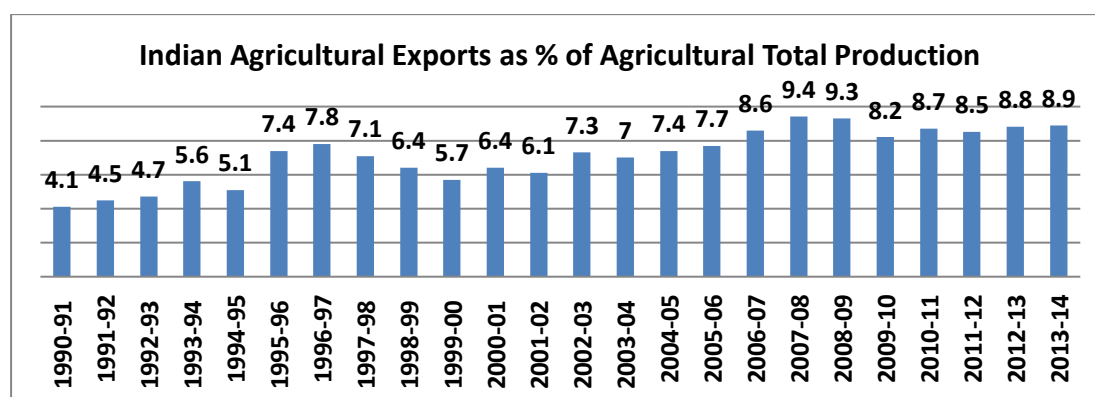
Figure: 4.3: The Percentage Share of India in the export of World Agricultural Exports



Source: RBI, Handbook of Statistics on Indian Economy

The percentage share of India in the world agricultural export is displayed for the duration of 22 years in the above table where we can notice that the percentage share of India’s agricultural export has increased substantially in the Post WTO period particularly after 2007. It was highest in 2011-12 where India stands with the Major global exporters of agricultural commodities.

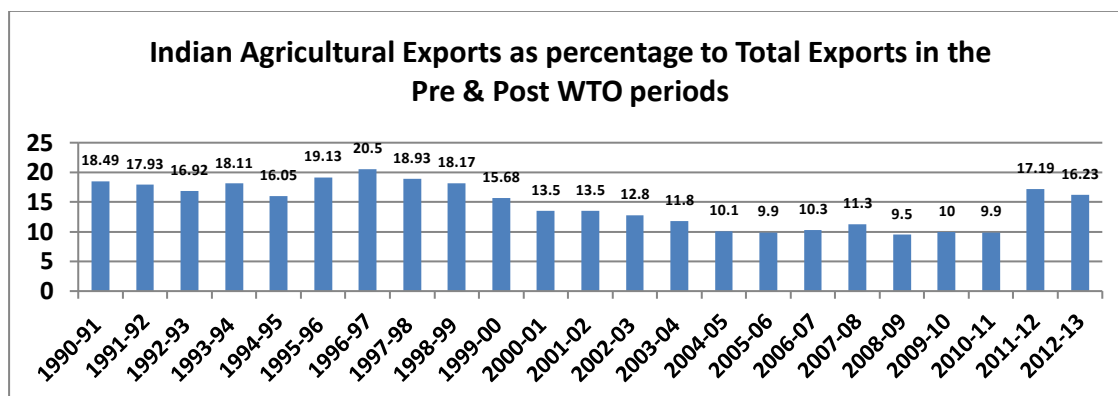
Figure: 4.4: Indian Agricultural export as percentage of Agricultural Total Production the Pre & Post WTO era



Source: RBI, Handbook of Statistics on Indian Economy

In the above table we can notice that the share of Indian agricultural export to total agricultural GDP in the Post WTO period was comparatively higher than that of the Pre WTO period. This is a clear signal that Indian agricultural production has been commercialised in a intense manner in the Post WTO period and its shift to the market orientation of character of it also noticeable in this period.

Figure: 4.5: Indian Agricultural Exports as percentage to Total Exports in the Pre & Post WTO periods



Source: RBI, Handbook of Statistics on Indian Economy

The share of Indian Agricultural commodity exports as a percentage to Total export was comparatively higher in the Pre WTO period but after the WTO the Share of this export was getting low in each coming year after 1995 in the post WTO period , it is because heavy increase in Indian service sector output export in the Indian Total export. But again after 2010 as the export in agriculture increased sharply the share of Agricultural export to total export started rising.

Table: 4.14: Year Wise Total Exports (in US\$ million & Quantity in MT), Growth of Allied Products of Agri-Exports of Indian Major Agricultural Commodities in the Pre & Post WTO era.

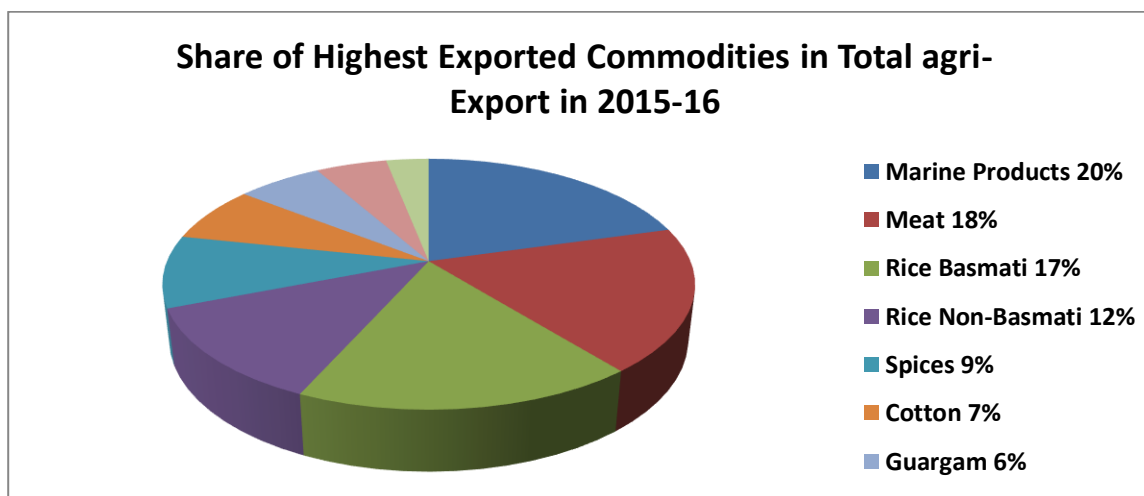
Year	India's Total Agricultural Exports	Quantity of Agricultural Export in Metric tonnes	Year Wise Growth of Values Rate of Total Agricultural Exports	The Percentage of Agricultural Exports To India's Total Exports
1987-88	586.16	10,61,153.44	--	22.78
1988-89	554.98	9,15,062.75	-5.31	20.06
1990-91	515	9,88,182.51	-7.20	18.49
1991-92	739.36	22,88,992.11	43.56	17.93
1992-93	666.37	14,70,638.41	-9.87	16.92
1993-94	897.27	20,01,497.74	34.65	18.11
1994-95	933.72	20,92,122.73	4.06	16.05
Average	615.243	1545378.53		18.62
CAGR	6.88%			
1995-96	2355.95	20,92,122.73	152.32	19.13
1996-97	2160.47	61,19,907.23	-8.29	20.50
1997-98	1940.12	39,80,849.06	-10.19	18.93
1998-99	2286.14	60,10,199.87	17.83	18.17

1999-00	1681.72	34,00,436.16	-26.43	15.68
2000-01	1996.54	47,33,808.13	18.72	13.5
2001-02	2144.85	75,04,857.93	7.43	13.5
2002-03	2803.94	1,15,33,053.00	30.72	12.8
2003-04	3134.66	1,19,16,945.49	11.79	11.8
2004-05	3775.13	1,19,60,591.93	20.43	10.1
2005-06	4218.01	1,03,94,825.88	11.73	9.9
2006-07	4693.05	1,05,29,404.61	11.26	10.3
2007-08	7311.37	1,54,28,409.71	55.79	11.3
2008-09	7540.03	1,31,48,884.31	6.16	9.5
2009-10	7343.98	1,12,55,522.03	-2.60	10.0
2010-11	9307.86	1,15,67,531.24	26.74	9.9
2011-12	17321.15	1,98,10,171.89	86.09	17.19
2012-13	21,739.85	3,01,72,963.87	25.51	16.34
2013-14	22,706.53	3,00,01,581.50	4.45	15.34
2014-15	21,489.34	2,71,34,311.45	-5.36	13.50
2015-16	16,412.76	2,04,69,770.49	-23.62	14.02
2016-17	16,212.45	2,12,71,453.91	-1.22	15.20
2017-18	18,576.87	2,22,93,598.89	14.58	13.2
Average	8658.82	1,27,27,426.14		13..31
CAGR	9.39%			

Source: APEDA, DGCIS.

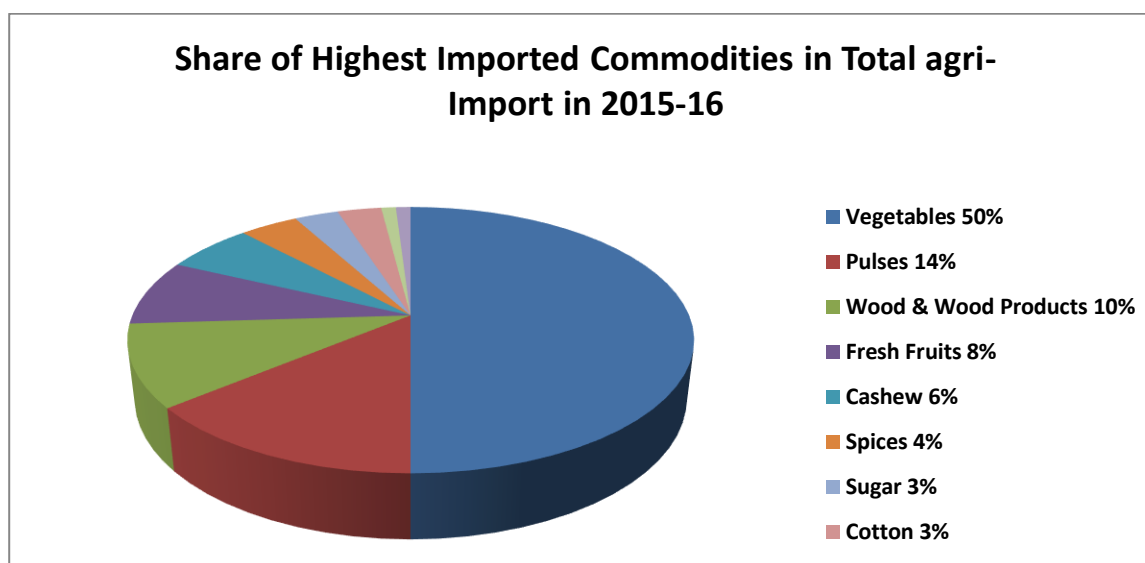
From the above table we can see that year wise growth in export value of agricultural commodities have increased substantially in the Post WTO period , particularly in recent times (from 2006-2011). This time the total agricultural export, percentage share of Agricultural export to India's total export and Growth of exports of Agricultural and Allied products have increased substantially.

Figure 4.15.1: Share of Highest Exported Commodities in Total agri-Export in 2015-16



Source: CSO Based data.

Figure 4.15.2: Share of Highest Imported Commodities in Total agri-Export in 2015-16



Source: CSO Based data.

Table: 4 16: Year Wise Percentage share of Indian Agricultural Exports in the Global level in the Pre & Post WTO era.

Year Wise	The percentage Share of Indian Agricultural exports in the World	Year Wise	The percentage Share of Indian Agricultural exports in the World
Pre-WTO		2007	1.42
1990	0.80	2008	1.57
1991	0.80	2009	1.38
1992	0.82	2010	1.69
1993	0.97	2011	2.06
1994	0.88	2012	2.26
CAGR (1990-1994)	1.92%	2013	2.28
Post-WTO		CAGR (1995-2013)	4.433%
1995	1.0		
1996	1.18		
1997	1.16		
1998	1.11		
1999	1.07		
2000	1.15		
2001	1.13		
2002	1.20		
2003	1.16		
2004	1.08		
2005	1.18		

2006	1.30		
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Source: WTO Data.

The share of Indian agricultural Commodity Export in the world was comparatively low in the pre-WTO period (0.80%-0.88% in 1991-94). In post-WTO, But in the post WTO phase (from 1995- 2013) the percentage share of Indian agricultural commodity export have increased enormously (1% in 1995 to 2.26% in 2012 and 2.28 in 2013). Though the Indian Agricultural export in value term (US\$ million) has gone down just after initial years of WTO, but in the recent time after the WTO the growth was positive in value term and percentage share also. After WTO and AOA this was the time when India was able to stand with the leading Nations of agricultural export in the World which helped India to gain market share in the world level also.

Table: 4.17: The Average Values (In US \$ Million) of Major Indian Agricultural Commodity Exports (in the Pre & Post WTO period in every Triennium wise) to different countries with export diversification.

	1989-92	1993-95	1996-98	1999-2001	2002-04	2005-07	2008-10	2015-2017
Total Export of Major Indian Agricultural Commodities	3,136.51	3,796.46	6915.94	5871.91	6714.75	10457.4	17900.4	27075.9
Cashew	247.95	329.97	370.45	468.41	391.05	564.55	596.21	778.78
Sugar	34.74	66.24	174.54	41.92	339.17	296.71	806.35	1645.78
Fruits and Vegetables	127.25	126.35	159.79	153.81	285.52	302.52	957.69	332.62
Spices	149.25	170.74	318.37	383.34	330.64	531.632	1249.20	2641.28
Meat	79.94	108.97	201.53	232.71	302.64	592.54	1141.41	3318.12
Cotton	224.05	105.22	241.7	38.46	74.84	699.92	1611.74	3001.45
Tea	546.20	328.54	382.35	447.25	352.74	411.94	570.11	740.55
Oil Meal	359.9	615.65	870.34	429.02	503.51	1008.23	1968.531	3469.65
Rice	273.31	377.01	1055.3	952.04	925.82	1488.79	2573.12	6186.30
Marine Products	510.95	847.31	1115.67	1204.92	1332.35	1599.05	1781.21	3093.33

Tobacco	134.94	130.61	211.5	201.22	206.45	317.42	716.01	912.5
Coffee	161.26 2	213.02	435.85	333.74	223.77	343.92	461.25	574.11
Simpson Index	0.8852	0.8707	0.8821	0.8701	0.8657	0.8906	0.9009	0.8713

Source: RBI hand Book of Statistics on Indian Economy

The above table shows average value of Indian exports of Major Agricultural Commodities. Where we notice that the value of export in million dollars has increased many times in the Post WTO period but the overall growth of Agricultural export was higher in the pre WTO period as compare to the Post WTO period other than Meat, Spices and Fruits & vegetable export. Export of these particular commodities increased many fold as compare to other commodities.

The Simpson Index shows higher value (0.9009) in the Post WTO period as compare to Pre WTO period's value (0.8852) which implies higher diversification of Indian overall agricultural export to the World in the Post WTO period than the Pre WTO period.

Table: 4.18: Export Share (in percentage) of Major Indian Agricultural Commodities to total Export of agricultural commodities (in the Pre & Post WTO period)

Percentage Share of major Indian Agricultural Commodity Export	1989-92	1993-95	1996-98	1999-2001	2002-04	2003-07	2008-10
Fruits and Vegetables	4.06	3.33	2.31	2.61	4.25	2.89	5.35
Rice	8.72	9.94	15.26	16.21	13.78	14.23	14.37
Oil Meal	11.48	16.22	12.58	7.30	7.49	9.64	10.99
Tobacco	4.31	3.45	3.05	3.42	3.07	3.03	3.99
Marine Products	16.28	22.3	16.13	20.52	19.84	15.29	9.95
Meat	2.55	2.89	2.91	3.96	4.50	5.66	6.37
Cotton	7.13	2.76	3.49	0.65	1.11	6.69	9.00
Cashew	7.89	8.68	5.35	7.97	5.82	5.39	3.33
Tea	17.41	8.66	5.52	7.61	5.25	3.93	3.18
Spices	4.76	4.50	4.60	6.52	4.92	5.08	6.97
Coffee	5.13	5.71	6.30	5.68	3.33	3.28	2.57
Sugar	1.11	1.74	2.52	0.71	5.05	2.83	4.50

Source: RBI hand Book of Statistics on Indian Economy

The above table shows the average value of export share (in percent) of traditional Indian agricultural commodities has gone down mostly in the Post WTO period as compare to the Pre WTO period. But Commodities like Spices, Meat & Meat Products, Rice and Fruits & Fruits products have shown positive results and in achieving higher growth of export share in the Post WTO period.

Table: 4.19: CAGR, (Annual Compound Growth Rate) of India’s Major Agricultural Commodity Exports in Pre and Post WTO Period

India’s Major Agricultural Commodities	Pre WTO Era (1989-90-1994-95)	Post WTO Era (1995-96 – 2009-10)
	Value	Value
Tea	-8.08	2.7
Fruits &Vegetables	20.42	8.01
Oil meal	9.37	5.59
Cashew	4.88	3.22
Sugar	1.30	17.01
Spices	2.34	9.54
Marine Product	8.79	3.17
Cotton	44.51	30.92
Rice	-5.51	6.12
Coffee	4.75	0.38
Tobacco	-0.53	8.47
Meat	13.27	18.81

Source: RBI, Handbook of statistics on Indian Economy

The above table shows other than some Agricultural export commodities like Meat, Fruits & Fruits Products, and Spices the CAGR of all other traditional Indian agricultural Commodity’s have gone down during the Post WTO period.

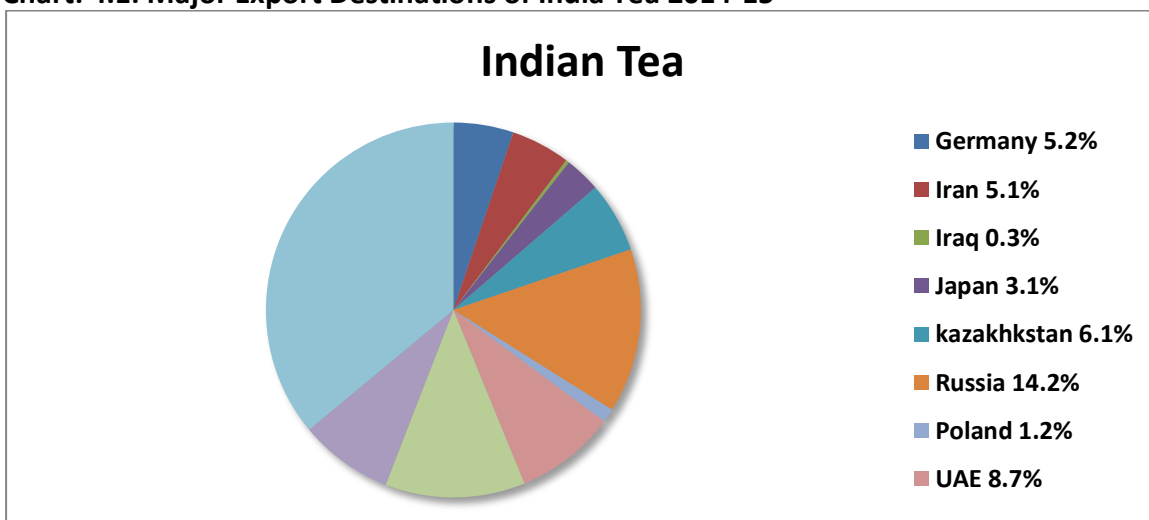
In the following we have discussed about the **Growth, Export competitiveness, Composition and direction** of few major Indian Agricultural Export commodities.

4.5: Tea:

Tea is among the top traditional plantation based industries in India which holds top position in export with other commodities and provides more than 2.5 million jobs to native people both directly and indirectly. This industry also helps earning huge foreign exchange, maintaining remote rural employment & soil conservation and Socio-economic development of the country. But Challenges are increasing every day in production and global export competition in this industry. Despite enormous challenges from China, Sri lanka & Kenya, India has able to maintain its position as a major global exporter of Tea with approximately 29% of world market share of Tea (436057 hectares of land engaged in tea plantation in India where major contributing states are Assam, WB, Tripura, NE, Tamilnadu, Kerala, Karnataka, Sikkim, HP). If we see the data India’s total Tea production has increased from **569** mkgs in 1980-81 to **870.41** mkgs in 1998-99 and **1278.83** mkgs in 2017(India’s Tea quality standard does not mostly match global quality standard of tea. In total tea production India produces around 85% CTC Tea and left is Orthodox leaf and green tea). Tea is among the world’s leading beverages in 140 countries where India has able to reach only in 80 countries. India’s traditional competitors in the world were Srilanka, China, Indonesia etc. But recently Bangladesh, Kenya, Uganda, Tanzania and Zimbabwe have emerged as India’s Global competitors in tea export Industry. The global Tea export has increased from 859 Mkgs in 1980-81 to 1259 mkgs in 1998-99, where India’s share was 210 mkgs in 1998-99. The recent Indian decadal world export share of Tea has declined drastically as the domestic consumption of tea has been rising since independence (31 % of the total production was kept for domestic consumption in

1950s where about 80% of the total Tea produced in India was reserved for domestic consumption in recent times). Major importing countries of Indian Tea are USA, Russia, UK, UAE, Saudi Arabia, Poland, Kazakhstan, Iran, Iraq, and Germany. India is facing competition from Sri Lanka & Indonesia in exporting Orthodox Tea, from China in exporting Green Tea, from Kenya and other African nations in exporting C.T.C. Tea. In order to make Indian Tea Competitive in the global level so that Indian tea exporters could reap the fruits of Economic liberalisation after WTO, the Govt. of India has taken many initiatives, including, macro-Economic stabilization & Structural Adjustments programme, exchange rate adjustments with new economic policies. The WTO has provided **GI (geographical Indication) act and Intellectual property rights (IPR)**, so the govt. of India has taken many initiative steps to improve export of Tea, which include production, domestic consumption, and exports. Under these circumstances our objective of the study is to see the export achievement of Indian tea in the post WTO era (after comparing between Pre & Post WTO eras). In the post WTO era Indian Tea export has been varying in year to year. The country wise average value of exports, percentage share to the total tea exports for 1989-90 to 2009-10 periods is given below in the following pie chart. The Pie chart shows the major export destinations of Indian tea in 2007-08 to 2009-10 was UK, USA, U.A.E., Iran & Russia.

Chart: 4.1: Major Export Destinations of India Tea 2014-15



Source: RBI hand Book of Statistics on Indian Economy

In our study we have tried to show the CAGR, Simpson Index, Percentage share, Pre & Post WTO period in order to explain cross country export trends, Performance & export diversification and export growth of Tea. One thing is noticeable here is that, after the WTO though OECD countries still remains as the major Importers of Tea but Asian countries import shares have increased than before and India some time lag behind to satisfy the high quality customers of the western nations with low technological background. Annual Compound Growth Rate (CAGR), average value of exports, percentage share to the total tea exports from India for 1989-90 to 2009-10 periods is given below in the table by Country Wise, Which reflects that the major export destinations of Indian tea in recent time are Russia, U.A.E., U.K., U.S.A. and Iran. In **pre-WTO period (1990-92), the major Indian Tea importing countries were (1) Russia (\$ 298 million) (2) UK (\$ 56 million) (3) Iran (\$ 38 million), (4)**

UAE (5) Germany (6) Poland. In post-WTO period (1998-99), the average value of tea exports was (1) Russia (US\$ 138.57 million) (2) U.K. (US\$ 46.1 million). In recent time (2010-11) the average value of tea exports from India is (1) Russia (US\$ 82.9 million), (2) U.A.E. (US\$ 72.9 million), (3) U.K. (US\$ 64.73 million) and U.S.A. (US\$ 46.2 million).

Table: 4.20: Percentage wise the Annual Compound Growth Rate (CAGR) of India's Tea Exports in Pre and Post WTO Period to different Countries.

Countries	Pre-WTO Era (From 1990 to 1995)	Post-WTO Era (From 1995-96 to 2009-10)
Germany	-0.89	1.14
U.A.E.	9.89	3.69
Russia	-16.84	-3.37
Iran	-15.72	16.62
Iraq	-4.09	14.04
Kazakhstan	6.7	8.94
Poland	8.16	-5.16
United Kingdom	-2.09	2.29
USA	9.06	8.24
Japan	-4.78	2.25
Others	-2.19	5.83
Total	-8.08	2.7

Source: RBI hand Book of Statistics on Indian Economy

The CAGR (compound annual growth rate) of Tea exports in pre-WTO period was 15 per cent that is higher than in post-WTO period which was only 5.8 per cent. The above Pie Chart shows the percentage share of tea exports in the pre WTO (1990-91) and post WTO period (2014-15). The average value of Tea exports 1991 was US\$ 546 million, which fell to US\$ 328 million in 1995. In post-WTO, the average value of tea exports was US\$ 570 million in 2010. However, the average share has declined from 5.53 per cent in 1997 to 3.19 percent 2009-10. So it is clear that percentage share of Tea exports was higher in pre WTO period but average value of Tea export was higher in Post WTO period as compare to pre WTO period. From the above table it can be seen that Iran, Other countries, USA, and Kazakhstan evolved as the major export destinations of Indian Tea in the Post WTO era.

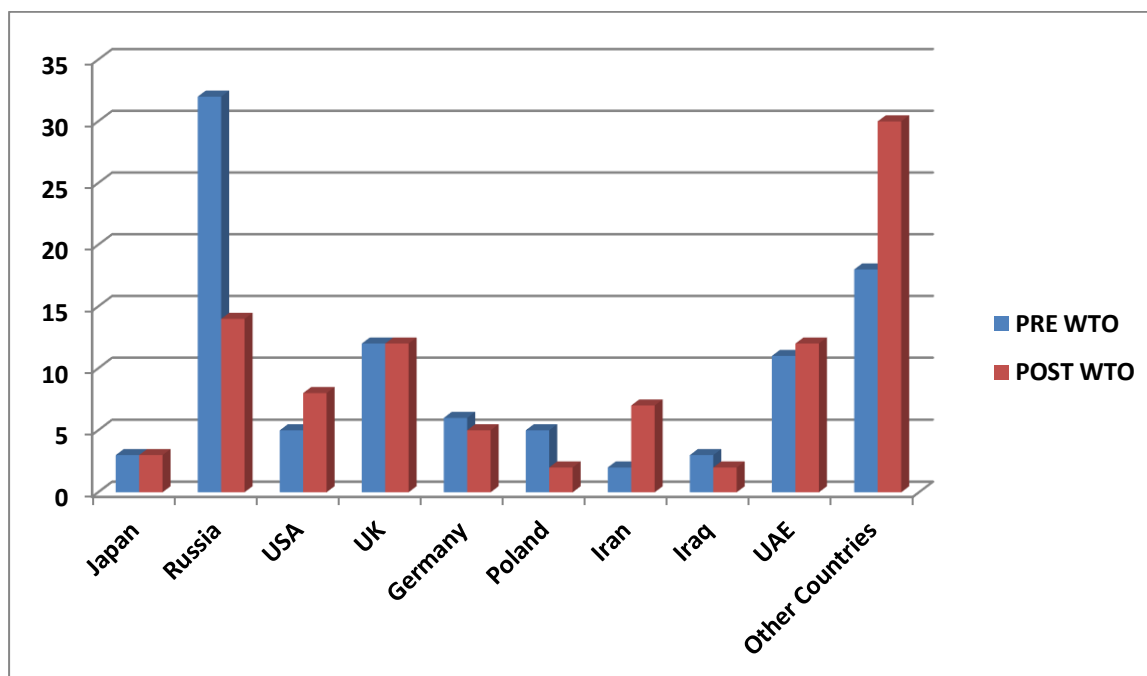
Table: 4.21: Export Share of Indian Tea to major importing Countries (in Percentage Share)

Countries	Share in Percentage		Difference
	Pre WTO Era (1986-1995)	Post WTO Era (1996-2016)	
Poland	5	2	Decreased
Kazakhstan	3	5	Increased
UAE	11	12	Increased
Iran	2	7	Increased
Iraq	3	2	Decreased
Germany	6	5	Increased
Japan	3	3	No change
Russia	32	14	Decreased
USA	5	8	Increased

United Kingdom	12	12	No Change
Other Countries	18	30	Increased

Source: RBI hand Book of Statistics on Indian Economy

Figure 4.6: The following Figure shows Country wise percentage share of export Change in the Pre & Post WTO period.

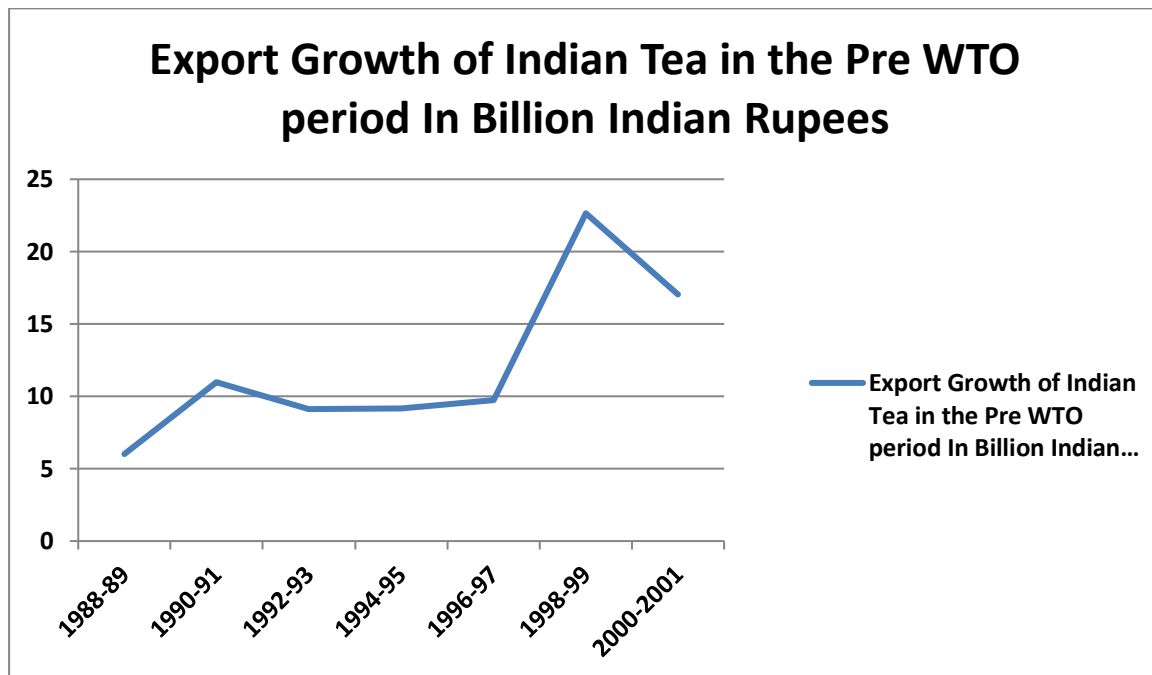


Source: RBI hand Book of Statistics on Indian Economy

From the above table it is being seen that the percentage share of some countries import of India's tea has declined in the post-WTO era, while some countries import of Indian grown Tea has increased, for example Indian Tea export to USA has risen from 1.4 % in the Pre WTO period to about 8% in 2012, where for UAE it has improved to about 12.8% from mere 3% in the same period. But in case of Russia the Bulk Tea export to Former USSR was as high as 54% in Pre WTO period has gone down to about 14.5% in Post WTO era, though it still the highest single country Tea export from India.

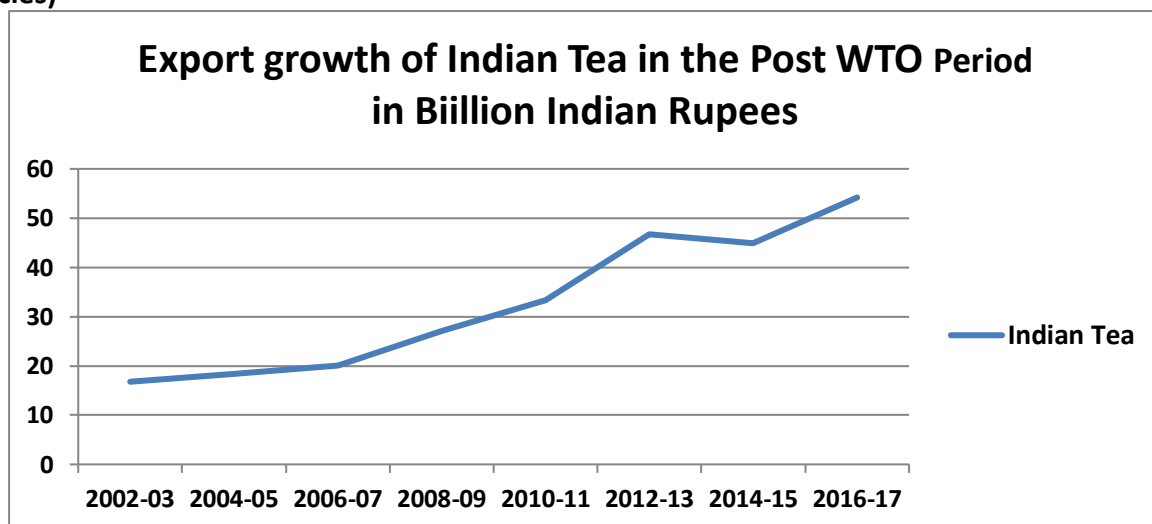
Two things has been taken into consideration to compare between the Pre & Post WTO era , first is the Compound annual growth Rate (CAGR) and the Second is measure of export diversification by using Simpson Index. In case of the CAGR the in Post WTO era the CAGR was higher than Pre WTO period and it was highest for many countries like, USA, UAE, and Iran etc. When we see Simpson index we notice that export diversifications were higher in Post WTO period (Simpson Index was .84 in the following table) as compare to pre WTO era (Where Simpson Index was 0.67. The value of the Simpson Index Varies from 0 to maximum 1, where value 0 implies no diversification and value 1 means maximum diversification.

Figure: 4.7: Growth of Export of Indian Tea in the Pre WTO Period (Estimated in Billion Indian currencies)



Source: RBI Hand Book of Statistics on Indian Economy.

Figure: 4.8: Growth of Export of Indian Tea in the Pre WTO Period (Estimated in Billion Indian currencies)



Source: RBI Hand Book of Statistics on Indian Economy.

Table: 4.22: Country wise Average Values (In US \$ Million) of Indian Tea Exports in the Pre & Post WTO period)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-2001	2002-04	2005-07	2008-10

Poland	15.89	25.44	21.12	15.59	14.12	14.88	9.54
Japan	12.26	9.14	11.26	12.64	11.41	12.00	15.71
Iran	37.56	13.46	4.41	9.58	4.19	6.87	44.24
Iraq	1.94	1.51	1.61	18.96	28.41	23.69	11.56
U.S.A	7.56	12.72	14.09	21.34	24.92	23.14	46.21
Kazakhstan	1.01	1.49	6.61	16.58	23.26	19.97	23.89
Germany	21.745	20.61	22.19	23.61	21.71	22.71	26.32
Russia	297.92	98.51	138.56	154.86	66.81	110.82	82.89
U.A.E.	16.01	28.19	42.32	48.88	52.66	50.71	72.91
United Kingdom	56.31	49.61	46.11	46.66	37.91	42.27	64.72
Others	79.04	69.21	73.51	78.42	67.32	72.87	172.09
Total	547.22	330.05	382.35	447.25	352.72	400.01	570.11

Source: RBI Hand Book of Statistics on Indian Economy.

Year Wise (Triennium wise) Values of Simpson Diversity Index of Indian Tea Exports to Several major export Destinations based on above values.

Triennium	1990-92	1993-95	1996-98	1999-2001	2002-04	2005-07	2008-10
Simpson Diversity Index	0.6661	0.824	0.801	0.82	0.87	0.852	0.842

The value of Simpson Index in case of Indian export has emerged to be higher showing higher amount of diversity of Tea export in Post WTO period (Simpson Diversity Index value being 0.842) in compare to Pre WTO period's value (0.6661)

Table: 4.23: Country wise Export Share of Indian Tea Exports in the Pre & Post WTO period (in Percentage & triennium basis)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-2001	2002-04	2005-07	2008-10
U.S.A	1.37	3.86	3.61	4.73	7.05	5.79	8.11
Germany	3.95	6.23	5.79	5.21	6.11	5.66	4.60
Japan	2.241	2.77	2.95	2.81	3.22	13.01	2.76
Kazakhstan	-	0.45	1.71	37.01	6.58	4.98	4.18
Poland	15.81	7.73	5.53	3.47	4.01	3.70	1.66
Russia	54.51	29.97	36.21	34.59	18.92	27.71	14.51
U.A.E.	2.91	8.57	11.09	10.91	14.94	12.68	12.77
United Kingdom	10.29	15.01	12.06	10.41	10.75	10.58	11.34

Iran	6.86	4.10	1.14	2.12	1.18	1.72	7.76
Iraq	0.34	-	0.43	4.25	8.06	5.91	2.28
Others	14.41	21.05	19.21	17.49	19.07	18.23	30.19

Source: RBI Hand Book of Statistics on Indian Economy

The Direction of Indian Tea trade in the pre & Post WTO period shows that in the Pre WTO period USSR was the most important market for Indian Tea export. But in the post WTO era the export share to Russia from India gone down from 60% to only 14%. USA has retained and improved Tea imports from India. UK has improved in the Post WTO period and Germany ranked 4th in terms of Export of Tea. The new emerging destinations for Indian Tea are Iran, USA, UK, Germany and UAE with older ones like Russia and Poland. The transitional probability matrix indicates that UK, Iran, UAE, Saudi Arabia were able to retain their previous shares of Indian Tea where countries like Germany, Poland, Russia etc could not retain their pre WTO period's market share of importing Indian Tea. So Structural Change is visible in trading Indian Tea in the post WTO period. Export competitiveness of Indian tea in the Post WTO era reveals that the NPC value under exportable hypotheses of Indian Tea was 0.98 and NPC value of Indian Tea under Importable Hypotheses was 0.71 respectively (Where, $NPC_i = P_i^d / P_i^w$, Where NPC_i = Nominal protection coefficient of commodity i. P_i^d = Domestic price of commodity i. P_i^w = World reference price of commodity i, adjusted for transportation, handling and marketing expenses. Here, $NPC < 1$ indicates the commodity is exportable and $NPC > 1$ indicates that the commodity is importable). This implies that Indian Tea exports is competitive and import substituting. According to few recent research studies done by Scholars show that the Indian tea exports are moderately concentrated and it is tended toward equitable proportions and the impact of WTO on Indian Tea trade showed that the rupee value of Tea export did not accelerate in the post WTO period and more or less remained same as pre WTO period. The major constraints in Export performance of Indian Tea in the Post WTO period as per the Corporations in the Tea industry were Unskilled Labour force, Lack of Capital & Credit supply to the Industry, high input cost (both fertilizers & Pesticides), Lacking of international quality standard (Phytosanitary measures) and competition with Sri Lanka, China, Kenya, Indonesia etc, Lack of measures in export promotions, existence of Nontariff Barriers, Fluctuations in domestic & International prices etc. The present situation of Indian Tea trade is satisfactory but not as it was in its Glorious period. To expand International market share of Indian Tea all the stakeholders, parties (Including Govt., National & multinational Corporations, Research Institutions) must come together and frame domestically and internationally viable & competitive policies (not at the cost of farmers or labourers) so that Indian Tea can regain its already lost international Export market share and compete in quality of Tea at the international level also.

4.6: Coffee:

The value of Coffee as a source of earning foreign exchange is immense for countries like India. It is considered as second biggest exporting commodity after petroleum. With about **2% share of global Coffee export** and around **4% of global Coffee production** India ranks **third** in coffee supply in Asia. Coffee is basically grown in south India (Karnataka grows about 73% of Coffee and Kerala state grows about 26% of total Coffee produced in India. Other than these 5% coffee is produced in nontraditional area like, AP & Orissa state and north eastern states of India). India exports about its 75 to 80% of domestically produced coffee and consumes around 20% of it. The demand for Coffee in the world has increased tremendously as it has become a lifestyle drink. But India is facing

enormous challenge from other Coffee exporter countries like Brazil, Vietnam Cambodia and many African countries and losing its international market share. Even the domestic market demand also not increasing since many years as about 78% of total domestically produced Coffee is exported and only 22% is kept for domestic consumption for long years now. India produces around 3.02 lakh tonnes of Coffee in 2012 and consumes around 1 lakh tonnes of coffee domestically. India's variety of coffee includes Robusta (68%) and Arabica (32%). As a result of **big fall in global Coffee prices the competition became fierce** and India's coffee export have been effected by that as the Indian Coffee export in Pre WTO period (1992-1994) was around US \$ 213 million and US \$ 435 million in 1998 with Its export share was around 5.7% in this period has fall down to US \$ 223 million in 2003-04. But after this fall the average export value of Indian coffee export started increasing again and reached up to US \$ 461 million in 2009-10 but its Export share remained 2.57% globally. So in the post WTO period the average export share of Indian Coffee was much less than to Pre WTO period, though the average value increased in the Post WTO period. The CAGR (Compound Annual Growth Rate) of Coffee export was much higher in Pre WTO period than in the Post WTO period. In the following table we have discussed Percentage share, average value of exports, and Simpson index of coffee export from India for 1990 to 2009-10, which shows the major coffee importing Countries are Russia, Germany, Italy & Belgium. In the pre WTO period Russia (US\$ 79 million) was among the top importers of Indian Coffee followed by Germany and Italy. In the Pre WTO period (1991-95) the average value of coffee export was highest to Germany, Russia, Italy and USA but in the Post WTO period it was Russia (US\$ 94 million), Italy (US\$ 57.4 million), Germany (US\$ 57.25 million). Recently it is Italy which is the top importer (US \$ 110 million) of Indian Coffee. Though the coffee export to Russia has gone down from 48% in the pre WTO period to about 11% in the Post WTO period still, Russia holds the second rank as coffee exporting destinations after Italy. Coffee export to Italy has gone up to 23.53% in the Post WTO period as compare to 12.65% in Pre WTO era. Some countries have shown mixed trend in coffee import like Germany and Belgium , where Spain has shown increasing trend in the Post WTO era (from 2.07% to 3.23%) in importing Indian coffee. The export diversification in the post WTO has increased as the Simpson diversification Index shows 0.73% in the post WTO period from 0.685% in the pre WTO period, which reflects Indian Coffee export, has been diversified better in the post WTO era. In this paper we have tried to analyse the effects of WTO regime on Indian Coffee export and growth rate of coffee export from India.

Table: 4. 24: Country wise Average Values (In US \$ Million) of Indian Coffee Exports in the Pre & Post WTO period (Triennium Wise)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-01	2002-04	2005-07	2008-10
Italy	12.09	30.61	57.433	45.74	36.32	41.04	108.571
United Kingdom	0.88	3.61	2.94	4.66	2.26	3.46	3.302
Belgium	0.76	2.22	11.13	16.94	14.311	15.68	22.94
U.S.A	9.04	19.86	48.01	23.81	6.38	15.09	10.11
The Netherlands	2.41	3.42	9.834	9.38	3.96	6.68	4.56
Germany	13.871	41.58	57.26	48.42	25.601	37.01	35.52
Switzerland	1.24	2.86	5.22	6.01	3.78	4.89	7.63
Latvia	1.19	1.24	1.21	6.02	1.18	3.59	4.51
Spain	0.98	1.84	9.41	15.74	9.16	12.44	14.92
Russia	78.26	35.12	93.83	59.66	53.01	56.32	48.31

Others	41.84	70.72	139.56	97.36	67.79	82.57	200.89
Total	161.27	213.04	435.86	333.72	223.78	278.76	461.28

Source: RBI Hand Book of Statistics on Indian Economy.

Year Wise (Triennium wise) Values of Simpson Diversity Index of Indian Coffee Exports to Several major export Destinations based on above values.

Triennium	1990-92	1993-95	1996-98	1999-2001	2002-04	2005-07	2008-10
Simpson Diversity Index	0.6852	0.79	0.80	0.8341	0.81	0.78	0.7351

The above table shows average value of Indian exports of Coffee to various nations from year 1990-92 to year 2008-10. According to the above table the major export destinations of Indian Coffee is Italy, Germany, Russia & Belgium (from time period 2008 to 2010). But it was different in the Pre WTO period as In the pre-WTO period (1989-1995), the average value of coffee exports in total coffee export was highest to Russia and then Germany, Italy and USA. But In the late post-WTO period (2007 to 2010), the major export destinations of Indian Coffee from India were maximum to Italy, followed by Russia, Germany and Belgium.

The Simpson Index shows higher value (0.7351) in the Post WTO period as compare to Pre WTO period's value (0.69) which implies higher diversification of Indian Coffee export to the World in the Post WTO period than the Pre WTO period. In the Post WTO period Belgium & Spain recorded highest CAGR of Indian coffee export to total coffee export to the world.

Table: 4.25: Country wise Export Share of Indian Coffee Exports in the Pre & Post WTO period (in Percentage)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-01	2002-04	2005-07	2008-10
Italy	7.51	14.35	12.66	13.71	16.22	14.71	23.54
Latvia	-	0.581	0.261	1.81	0.523	1.28	0.98
Belgium	0.471	0.01	2.452	5.071	6.392	5.62	24.98
Russia	48.50	16.48	20.68	17.86	23.67	20.21	10.401
Germany	8.58	19.51	12.60	14.50	11.438	13.28	7.71
United Kingdom	0.54	1.679	0.642	1.40	1.01	1.23	0.72
U.S.A	5.61	9.301	10.58	7.12	2.83	5.41	2.19
Netherlands	2.41	1.61	2.16	2.802	1.771	2.40	0.991
Switzerland	0.761	1.341	1.14	1.79	1.685	1.751	1.66
Spain	0.59	0.86	2.08	4.72	4.08	4.45	3.232
Others	25.89	33.21	30.74	29.16	30.38	29.63	43.54

Source: RBI Hand Book of Statistics on Indian Economy.

The country wise average percentage share of coffee in total coffee exports was highest for (1) Italy then, (2) Russia and (3) Germany in recent time. Few Countries Coffee Import from India has

Increased in this period for example Italy and Spain but, it has been declined for some Countries in the post WTO period as compare to Pre WTO period, for Example Russia where some countries has shown more or less steady path, for example Germany, Belgium etc.

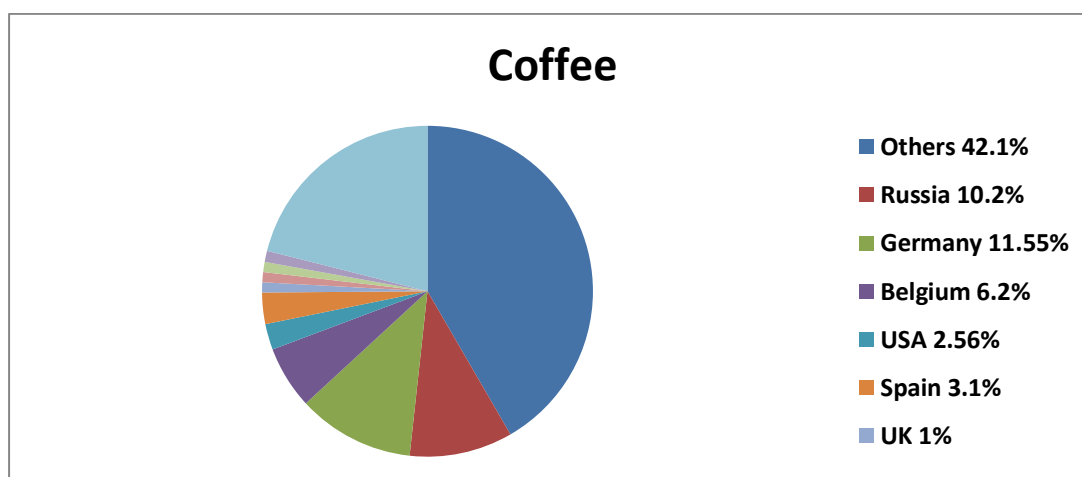
Table: 4.26: Percentage wise CAGR, (Country wise Annual Compound Growth Rate) of India's Coffee Exports in Pre and Post WTO Period

Countries	Pre-WTO Era (from1990 to1994-95)	Post-WTO Era (1995-96 to 2009-10)
Netherlands	6.01	-4.99
Russia	-12.5	-4.33
Spain	11.07	3.12
Switzerland	14.95	2.56
Germany	20.08	-3.13
Italy	16.75	4.34
USA	14.02	-9.86
Latvia	0.69	9.17
United kingdom	26.52	0.77
Belgium	19.56	4.94
Others	9.14	2.46
Total CAGR	4.75	0.38

Source: RBI, Handbook of Statistics on Indian Economy

In the Pre WTO period the CAGR (Compound Annual Growth Rate) of Coffee was highly concentrated to few particular countries. In the Post WTO period Belgium & Spain recorded highest CAGR of Indian coffee export to total coffee export to the world.

Chart: 4.2 Major Export Destinations of India Coffee 2014-15



Source: WTO Data

In the pre WTO period the export of Coffee was 10.859 billion rupees from 2.616 billion rupees in 1988-90. In the post WTO period the export of coffee increased to 17.280 billion in 1998-99 and rose to 49.1251 billion rupees. But again it fell to 20.321 billion rupees in 2009-10. After 2010 it increased again in 2012-13. The export of Coffee is regulated by the Coffee Board of India which controls coffee trade by imposition of periodic quantitative restriction and Coffee has never been taken under quota licensing. There are two auction markets for coffee trade in India. Two markets are separated in order to maintain the domestic price of Coffee less than the International price.

After studying both the Pre & Post WTO period, we can say that there are some countries which were unstable under the Pre WTO era as Indian Coffee export destinations and there are some countries which became unstable in the Post WTO era. The probability of retention was high for other countries in both the Pre & Post WTO periods. The probability of retention was very unstable for Switzerland in the pre WTO period. The Probability of retention was less for USA in the post WTO period which was high in the Pre WTO period and Italy & USA were the net gainer of Coffee trade as importers in the post WTO period. One of the big reasons behind this was the policy of no quota licensing in import or export of coffee in India. Though there is difference between the actual & estimated export market share, yet the market share of Germany, Spain, Switzerland, & Italy have increased in the post WTO period but market share have decreased for countries like Russia, USA, Belgium & other countries.

Table: 4.27: Export Share of Indian Coffee to major importing Countries (in Percentage Share)

Countries	Percentage Share		Difference
	Pre WTO Era (1986-1995)	Post WTO Era (1996-2016)	
Russia	21	12	Decreased
Belgium	4	6	Increased
Germany	14	10	Decreased
USA	8	2	Decreased
Spain	3	3	No change
United Kingdom	1	1	No Change
Switzerland	1	1	No Change
Italy	14	23	Increased
Latvia	1	1	No Change
Other Countries	31	40	Increased

Source: RBI hand Book of Statistics on Indian Economy

In the pre WTO period, the market share of Coffee was maximum in case of other countries (31%), then Russia (21%), Germany and Italy (14% each), USA (8%), Belgium (4%), Spain (3%), Netherlands (2%), Latvia, Switzerland, UK(1% each) to the total imports of agricultural commodity basket. But in the Post WTO period the market share of Coffee in to total coffee export was highest in case of other countries (40%) followed by Russia (12%), Germany (10%), Belgium (6%), Spain (3%), USA (2%), Latvia, Netherlands, Switzerland and UK(1% each) contributing 1per cent each to the total imports of agricultural commodity basket.

Figure 4.9: The following Figure shows Country wise export Change of Indian Coffee in the Pre & Post WTO period (Percentage Wise)

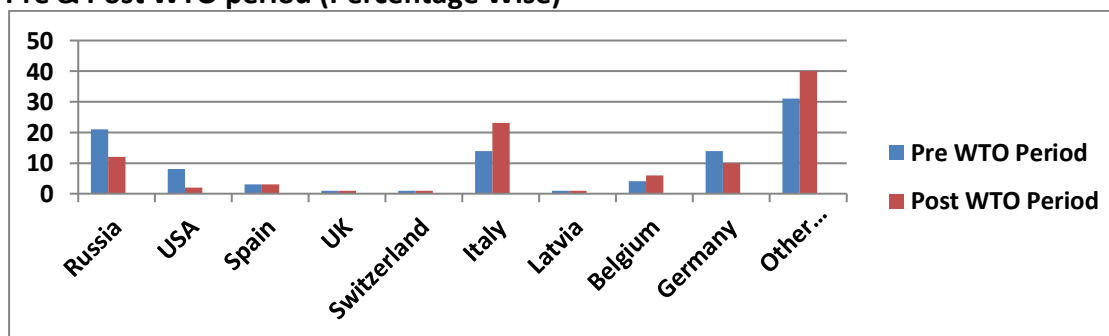
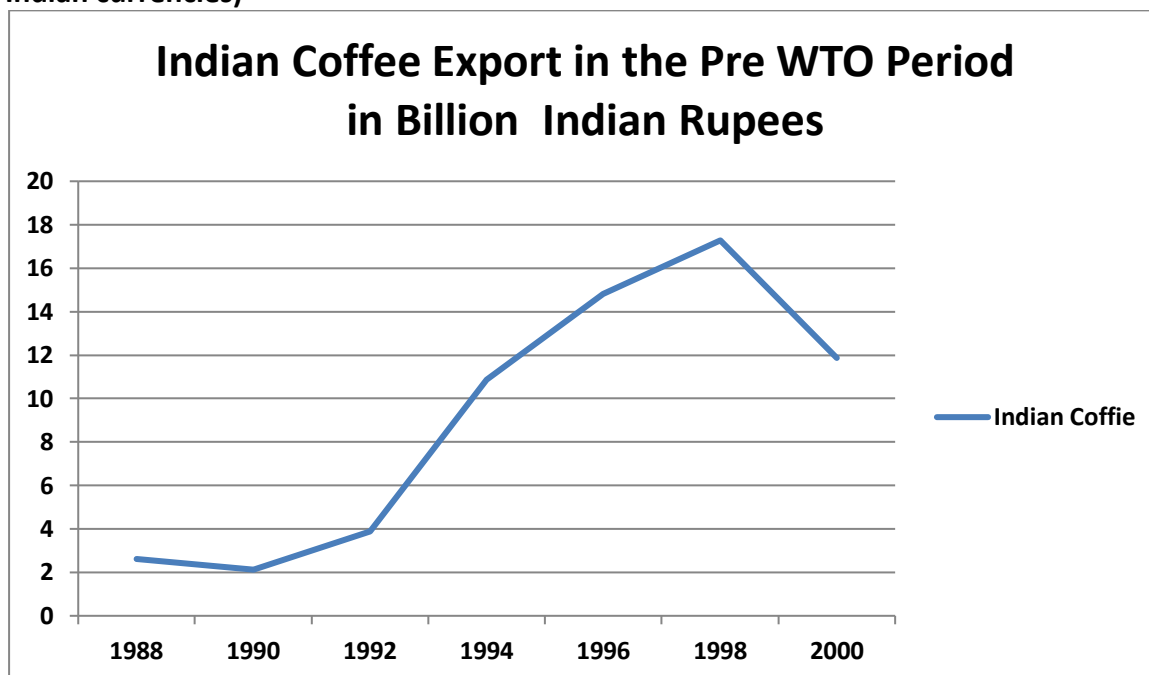
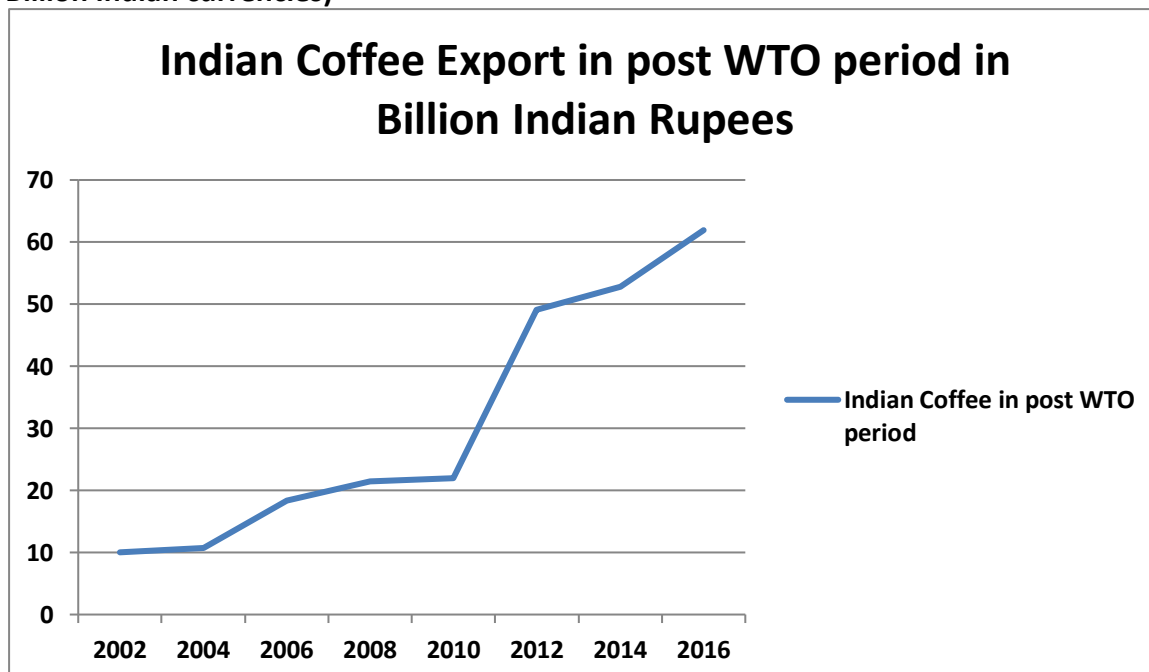


Figure: 4.10: Growth of Export of Indian Coffee in the Pre WTO Period (Estimated in Billion Indian currencies)



Source: RBI Hand Book of Statistics on Indian Economy.

Figure: 4.11: Growth of Export of Indian Coffee in the Post WTO Period (Estimated in Billion Indian currencies)



Source: RBI Hand Book of Statistics on Indian Economy.

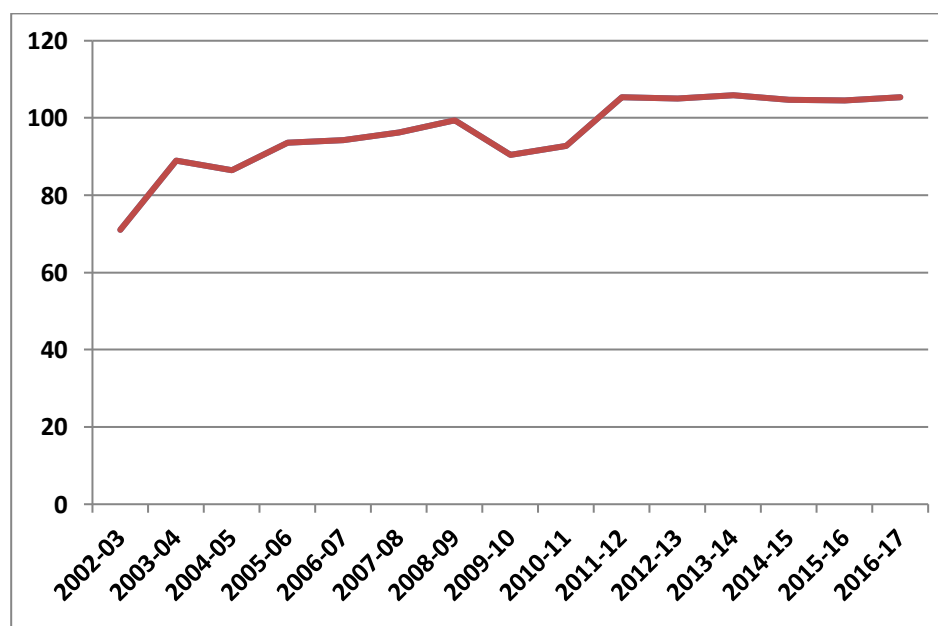
The Indian coffee export during pre-WTO period rose from 2.616 billion (1988-1995) rupees to 10.859 billion rupees (1988-1995) and it became highest Rs. 17.279 billion in 1998. Initial period of Post WTO period the Coffee export was flat during 1997-99. But the coffee export Jumped and became Rs 49.125 billion in 2012-13. After that then again it increased during 2014-16.

The rate of growth of Indian coffee export in the post WTO era was lower than the Pre WTO period as per our study reveals. This did not match the expectation that after globalization and opening trade would positively influence Coffee export and it would expand with much faster growth rate. India since the inception of the WTO is asking for new opening and relief for agricultural export for the developing countries to the WTO. The WTO implications on Indian Coffee are long standing. As per the ICO data India shares 4.5% of world coffee production and Europe imports about 70% of total Indian coffee export. But in the year 2008-09 Indian coffee export faced global recessionary effect. As result of this the coffee export declined about 21% than the previous year. In recent time the Indian Coffee export reached to US\$ 958 million. Domestic demand has increased tremendously and it is larger than export demand. India is the third largest coffee producer in Asia and main importers of Indian coffee are Italy (highest) then Germany, Russia etc. As per the coffee exporters of India, next coming years after 2018 will not be very friendly to the coffee export. Actually they are not very much hopeful to the Global demand of coffee export.

4.7: Rice

Rice is one of the most important agricultural trading commodities for export earnings. India's biggest competitors of rice exports are **China, Vietnam & Thailand**. India is the **biggest exporter of rice in the world as per 2016- 17** world commodity trade data. Thailand ranks 2nd in rice export in the world. India's rice export includes Basmati & non Basmati rice where Basmati rice share main portion of export because of its good Aroma, superfine grains and different utility in food preparation. About 65% of total Basmati rice produced in India is exported and the value of Basmati export has increased over the time. Though the non Basmati rice is also share a good amount of export earning which was in between from 25% to 50% since 1995 to 2016.

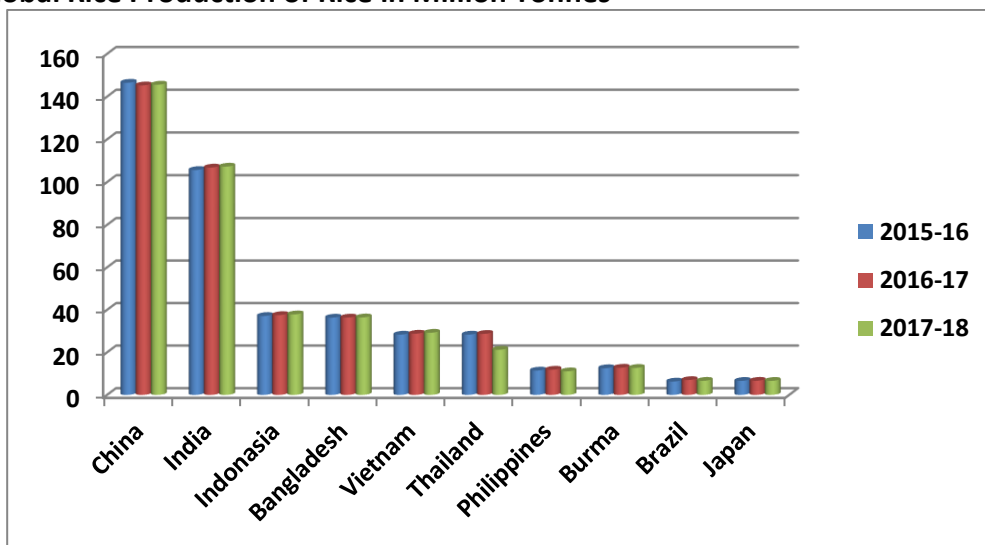
Figure 4.12: Indian Rice Production (in million tonnes) year wise.



Source: D&ES (Directorate of economics & Statistics) data.

The export earnings from rice have shown different pictures in different times, for example in the pre WTO period the export earnings from rice increased continuously (from 1990 to 1995 it has increased from US\$ 274 million to US\$ 377 million). But in post WTO period it has declined first (the average value of rice export was US\$ 1055.43 million to US\$ 952.03 million in triennium 1998-2001) then it further declined to US\$ 925.83 million in the next triennium 2001-2004. But ultimately the Rice export increased tremendously in the next triennium of 2007-2010 to about US\$ 2573.1 million. This increase along with per hectare yield increase (from 1985 kg per hectare in 2005 to 2315 kg per hectare in 2012) shows Govt. initiatives in multiple crop development programmes. The production of Rice has touched high level in the late Post WTO period to about 103 million tonnes in 2012 and 107 million tonnes in 2017-18.

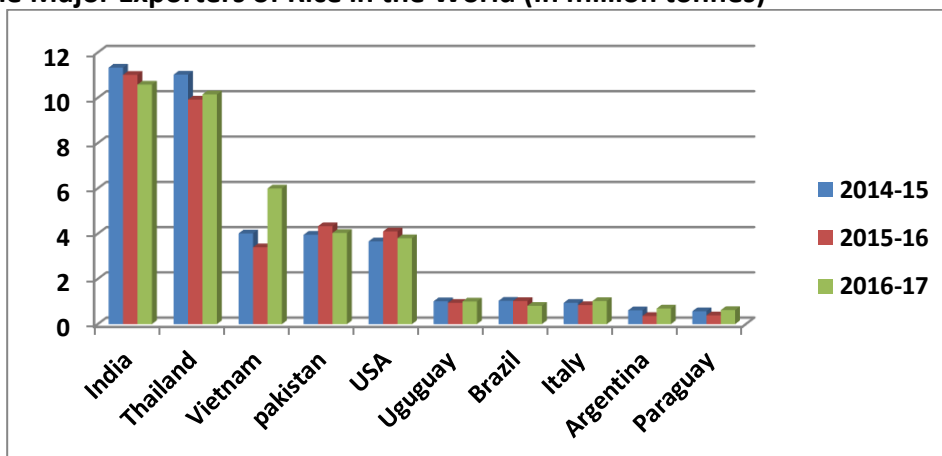
Figure 4.13: Global Rice Production of Rice in Million Tonnes



Source: Department of agriculture (US)

The above chart shows that China is the Leading producer of Rice in the recent Triennium (2015-2017) followed by India, Indonesia & Bangladesh.

Figure 4.14: The Major Exporters of Rice in the World (In million tonnes)



Source: commodity Trade (Comtrade) data.

The above Chart shows that in the last triennium (from 2014-15 to 2016-17) India was the largest exporter of Rice in the world followed by Thailand, Vietnam and Pakistan.

Table: 4.28: Latest trends of India's Export of rice from 2010-11 to 2017-18 (calculated in Million tonnes)

Year	Basmati	Non-basmati
2010-11	2.37	0.10
2011-12	3.18	4.00
2012-13	3.50	6.64
2013-14	3.76	7.00
2014-15	3.70	8.23
2015-16	4.04	6.37
2016-17	4.10	6.81

Source: Department of commerce GOI

During 2010 to 2017 India exported good amount of both Basmati & non Basmati rice to the world. But the Amount of rice import to India was insignificant during this time.

In the post WTO period the average share of rice export increased initially in 1998 to 15.26% then it declined to 14.37% in 2007-09. The CAGR value was 8.5% in the Post WTO period as compare to 10.5% in the Pre WTO period. But the value of rice export was much higher in the Post WTO period.

Table: 4.29: Country wise Average Values (In US \$ Million) of Indian Rice Exports in the Pre & Post WTO period)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-01	2002-04	2005-07	2008-10
Saudi Arabia	96.92	183.24	229.21	313.86	252.34	283.09	663.16
United kingdom	23.86	29.11	36.62	49.04	66.46	57.73	72.50
U.S.A	13.08	13.92	51.69	17.18	37.84	27.50	49.76
Bangladesh	0.270	9.44	140.82	228.19	110.16	169.17	290.92
Yemen	0.170	0.03	9.73	10.16	17.66	13.92	53.21
France	1.532	3.930	6.40	9.10	6.78	7.930	2.07
Kuwait	12.64	30.06	38.66	36.24	38.16	37.21	164.98
U.A.E.	18.41	37.16	45.18	32.06	32.72	32.39	556.51
Singapore	1.934	2.24	3.71	6.830	12.70	9.76	13.670
South Africa	0.01	0.470	71.72	60.11	81.71	70.91	33.79
Others	104.61	67.41	421.81	189.29	465.01	327.14	672.52
Total	273.29	377.01	1055.43	952.04	1388.74	1170.40	2573.11

Source: RBI, Handbook of Statistics on Indian Economy.

Year Wise (Triennium wise) Values of Simpson Diversity Index of Indian Rice Exports to Several major export Destinations based on above values.

Triennium	1989-92	1993-95	1996-98	1999-2001	2002-04	2005-07	2008-10
Simpson Diversity Index	0.7135	0.71	0.77	0.7830	0.7892	0.7732	0.8001

Source: Researcher's Own calculations based on given Values

In the above table the **country** wise average value of exports, percentage share to the total rice exports and Simpson index of rice export for 1990 to 2010 is shown for India. We notice that the major export destinations of Indian rice were Saudi Arabia, U.A.E., Bangladesh and Kuwait in recent times. In the pre WTO era (1990-1995) the average value of rice export was highest to Saudi Arabia, Russia, Italy, USA & UK and in Post WTO era the average value of rice export was highest to Saudi Arabia, followed by UAE, Bangladesh & Kuwait. Both Kuwait & UAE has come up to be new export destinations of Indian rice in Post WTO era.

The Simpson Index shows higher value for Indian Rice export (0.8001) in the Post WTO period as compare to Pre WTO period's value (0.71) which implies higher diversification of Indian Rice export to the World in the Post WTO period than the Pre WTO period. In the Post WTO period the CAGR of Indian Rice export were maximum to Singapore then to Yemen, UAE, and Kuwait. Belgium & Spain recorded highest CAGR of Indian coffee export to total coffee export to the world.

Table: 4. 30: Country wise Export Share of Indian Rice Exports in the Pre & Post WTO period (in Percentage)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-01	2002-04	2005-07	2008-10
Saudi Arabia	35.21	48.61	21.70	32.95	18.15	24.17	25.76
U.S.A	4.782	3.69	4.891	1.803	2.722	2.353	1.933
Bangladesh	0.970	2.50	13.33	23.95	7.94	14.44	11.29
France	0.561	1.041	0.601	0.950	0.481	0.671	0.801
Kuwait	4.601	79.69	3.660	3.801	2.740	3.172	6.42
Yemen	61.01	0.080	0.920	1.061	1.272	1.180	2.060
Singapore	0.70	0.590	0.350	0.710	0.910	0.831	0.532
South Africa	00	0.120	6.80	6.302	5.87	6.05	1.313
U.A.E.	6.702	9.851	4.272	3.363	2.351	2.764	21.61
United kingdom	8.72	7.70	3.470	5.151	4.79	4.93	2.812
Others	38.26	17.36	21.795	19.86	33.47	27.89	26.14

Source: RBI, Handbook of Statistics on Indian Economy.

The above table is showing the percentage share of Indian Rice exports to different countries. In the Pre WTO period the percentage share was highest to Saudi Arabia then Kuwait, Bangladesh etc but in Post WTO era though Saudi Arabia maintains its highest share in Indian Rice export but it maintains it with diminishing character as compare to pre WTO era. Countries like UK, USA and Bangladesh etc have not shown same amount of share every time rather they have maintained sometimes high and sometimes low share in importing Indian Rice where, Kuwait, UAE has shown high increasing tendency in importing Indian rice.

Table: 31: Percentage wise CAGR, (Country wise Annual Compound Growth Rate) of India’s Rice Exports in Pre & Post WTO period

Countries	Pre-WTO Period (1990-95)	Post-WTO Period (1996-2010)
Bangladesh	80.83	4.96
France	17.03	-7.25
Kuwait	15.53	10.16
Saudi Arabia	11.2	7.34
Singapore	2.51	9.08
South Africa	89.97	-4.89
U.A.E.	12.42	18.22
United Kingdom	3.37	4.66
U.S.A	1.04	-0.25
Yemen	-25.11	11.99
Others	-7.06	3.16
Total	5.51	6.12

Source: RBI, Handbook of Statistics on Indian Economy.

In the Post WTO period The CAGR of Indian Rice export were highest to UAE, followed by Yemen, Singapore, and Kuwait, Belgium & Spain in the post WTO period. India’s rice production has increased at CAGR of 1.43% from 2003 to 2017.

Chart: 4.3: Major Export Destinations of India Rice 2014-15



Source: RBI, Handbook of Statistics on Indian Economy

The above Pie chart shows the major export destinations for Indian Rice was Other Countries (highest), then UAE, Saudi Arabia Kuwait etc.

Table: 4.32: Export Share of Indian Rice to major importing Countries (in Percentage Share)

Countries	Share in Percentage		Difference
	Pre WTO Era (1986-1995)	Post WTO Era (1996-2016)	
Saudi Arabia	30	15	Decreased
France	1	0	Decreased
USA	3	2	Decreased
Bangladesh	15	1	Decreased
United Kingdom	5	3	Decreased
Kuwait	4	6	Increased
Yemen	1	3	Increased
Singapore	1	1	No Change
UAE	4	16	Increased
Other Countries	30	51	Increased

Source: RBI, Handbook of Statistics on Indian Economy

Figure 4.15: The following Figure shows Country wise export Change of Indian Rice in the Pre & Post WTO period (Percentage wise)

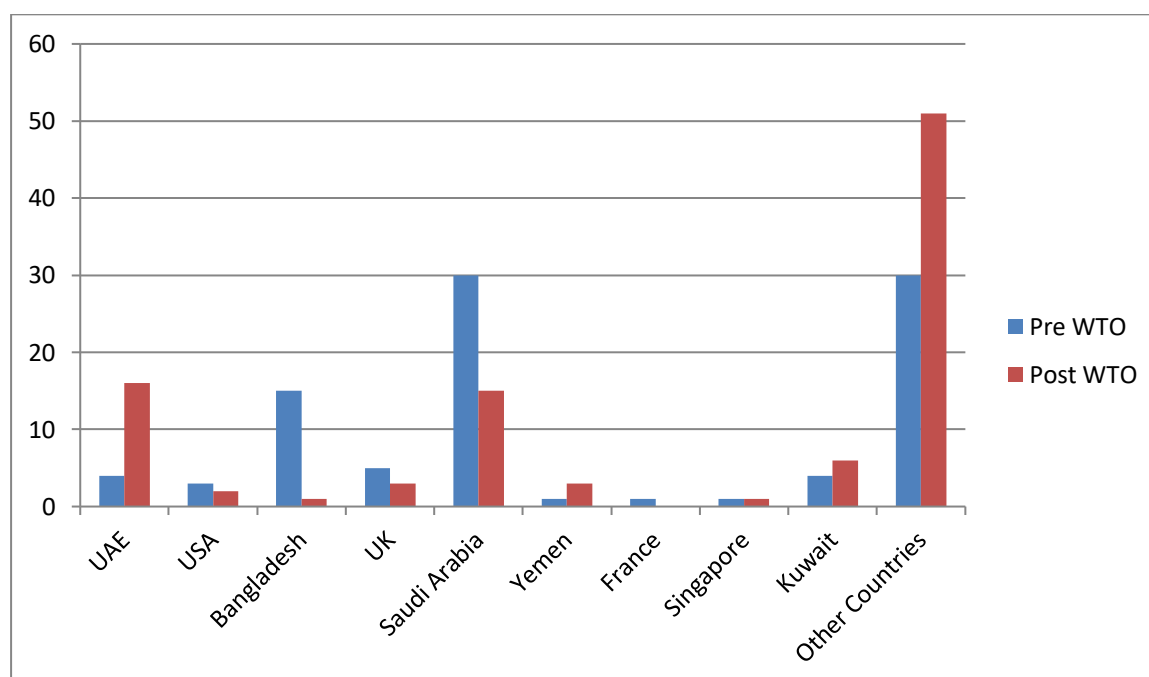
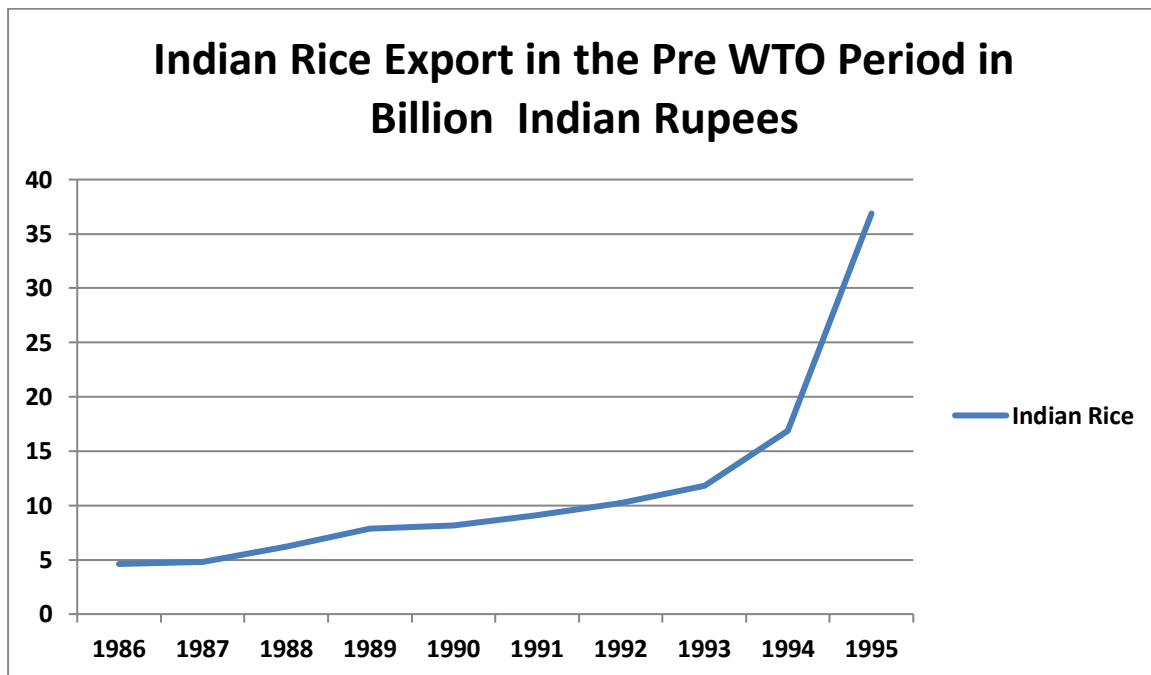
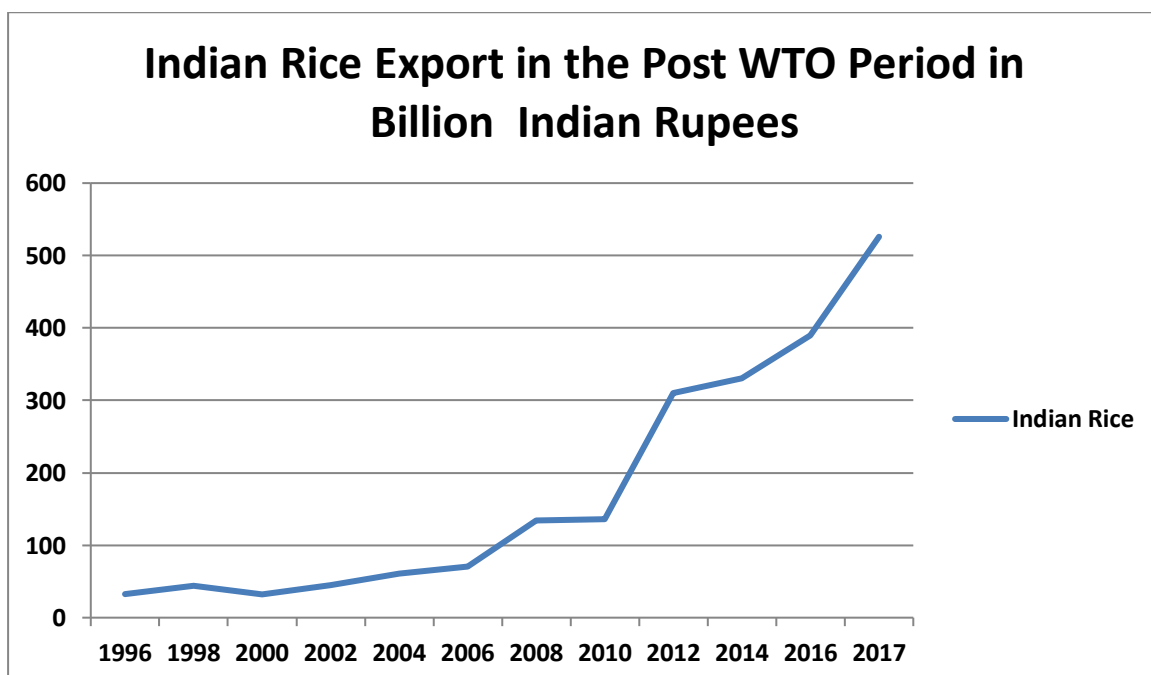


Figure: 4.16: Indian Rice Export in the Pre WTO Period in (Billion Indian Rupees)



Source: RBI, Hand Book of Statistics on Indian Economy.

Figure: 4.17: Indian Rice Export in the Post WTO Period in (Billion Indian Rupees)



Source: RBI, Hand Book of Statistics on Indian Economy.

Until mid 90s Indian rice export & import were restricted through quantitative restrictions. Export of basmati varieties were freed in 1994 but import restrictions were not removed completely it was controlled by State Trading Enterprise and Import of many varieties of Rice needs agriculture Permit Certificate & Phyto Sanitary Certificates.

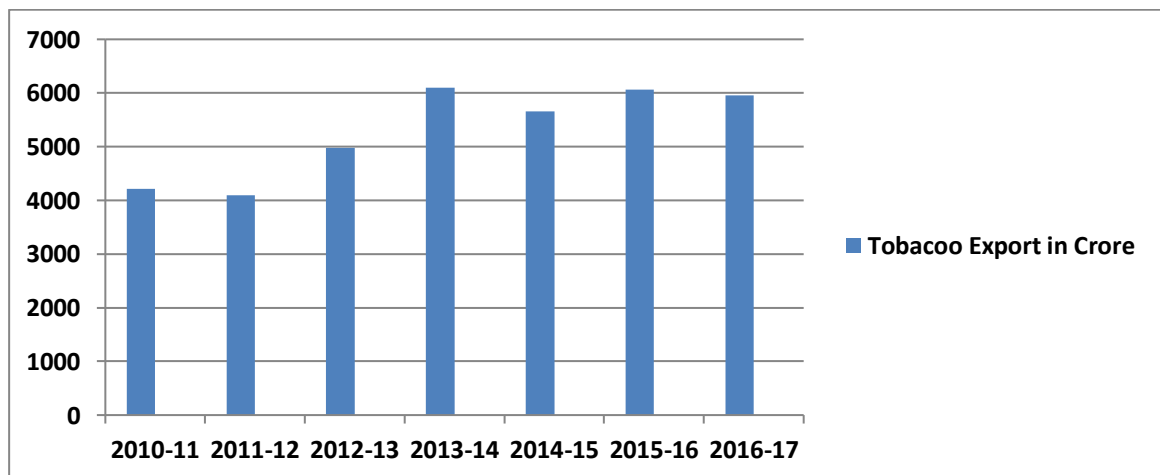
Indian Rice export during pre WTO period was almost flat (1989-1995) but from 1998 to 2002 the rice export growth took its peak (it was 68.8 billion Indian rupees). But since 2003 to 2010 again the Indian rice export was flat. But suddenly the rice export jumped to 339 billion rupees in 2012 from mere 67 billion rupees in 2004. The other countries in the above tables have been most loyal importers of Indian rice followed by Saudi Arabia, UAE, Kuwait and Yemen.

4.8: Tobacco

Tobacco is one of the **main traditional** agricultural export commodities. India is one of the **Leading** Tobacco producer & exporter of the world. India holds approximately **5% of the global share of** tobacco trade of around US \$ 12 billion. It earns about Rs 6000 crore annually by exporting Tobacco & Tobacco products. India produces different varieties of Tobacco & Tobacco products and exports to around 100 countries globally. India produces FCV type of Tobacco and its total exports contains about 60% of this type. The total foreign exchange earnings from FCV type of tobacco is 3500 crore of Indian rupees. This is especially exportable tobacco because; around 70% of the total production of this type is exported globally. For India there exists tremendous opportunity for Tobacco trade as it has vast variety of tobacco and well establish domestic market.

In the above table , we can see that the average value of tobacco exports in the Pre WTO era was US\$ 134.93 million with 4.3% share of global export(from 1989 to 1992), then it fall to US\$ 130.6 million in 1995 with 3.44% global export. In the post-WTO, the average value of tobacco exports became US\$ 211.6 million (from 1995 to 1998) then US\$ 201.23 million (from 1999 to 2001), then US\$ 206.46 million in 2004 and ultimately US\$ 716 million in 2010. In the same time the average export percentage share of Tobacco was globally 3.05% (1995-96) then it declined and increased thereafter to 3.99% in 2010. Therefore it can be said that the average percentage share of export of Tobacco in the Post WTO era was less than that of the pre-WTO period but the average value of export was higher in Post WTO era as compare to pre WTO period.

Figure 4.18: Recent Picture of Tobacco Export of India (values expressed in terms of RS crore)



Source: Ministry of Commerce & Industry, G.O.I.

The compound annual growth rate in terms of value of exports in pre-WTO period was 13.78 per cent that is higher than in post-WTO period, which was only 12.1 per cent.

Table: 4.33: Country wise Average value of Tobacco Exports from India (In US\$ million)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-01	2002-04	2005-07	2008-10
U.S.A	2.230	1.670	3.872	11.80	15.52	13.66	27.26
Russia	32.72	33.61	38.66	33.53	22.330	27.92	39.16
Germany	6.51	6.103	16.01	15.10	18.332	16.71	33.44
Netherlands	2.78	4.434	2.870	7.00	8.91	7.952	31.86
Yemen	5.731	0.931	2.230	4.831	5.061	4.953	12.102
Saudi Arabia	12.672	9.604	7.44	8.632	7.273	7.953	15.91
Singapore	1.701	1.673	5.871	6.203	8.703	7.452	13.912
Belgium	15.59	7.502	16.26	19.01	22.801	20.91	126.69
U.A.E.	2.801	5.632	8.202	12.91	19.09	16.01	51.62
United Kingdom	22.82	20.79	34.07	20.72	10.08	15.39	19.28
Others	29.38	38.774	76.01	61.59	68.37	64.982	344.78
Total	134.925	130.723	211.494	201.326	206.47	203.86	716.014

Note: Average Value in Triennium

Source: RBI, Hand Book of Statistics on Indian Economy.

Year Wise (Triennium wise) Values of Simpson Diversity Index of Indian Tobacco Exports to Several major export Destinations based on above values.

Triennium	1990-92	1993-95	1996-98	1999-2001	2002-04	2005-07	2008-10
Simpson Diversity Index	0.8438	0.8112	0.80	0.84	0.84	0.7921	0.7222

The above table show country wise average export of Indian tobacco in the Pre & Post WTO era, where we notice that from 2007 to 2010 Indian major destination of Tobacco export was Belgium, UAE, Russia & Germany. In the pre WTO era (from 1990 to 1995) the major Export destinations was Russia (highest), UK, Saudi Arabia and Belgium. In the Post WTO era (from 1995 to 2016) the major destinations of Indian Tobacco export was Belgium, UAE, Russia, Germany and Netherlands.

The Simpson Index shows lower value for Indian Tobacco export (0.7222) in the Post WTO period as compare to Pre WTO period's value (0.8438) which implies low export diversification of Indian Tobacco export to the World in the Post WTO period than the Pre WTO period.

Table: 4.34: Country wise Average Share of Tobacco Exports from India (percentage wise)

Countries	Pre-WTO Period		Post-WTO Period				
	1990 -92	1993-95	1996-98	1999-01	2002-04	2005-07	2008-10
U.S.A	1.652	1.271	1.821	5.863	7.520	6.701	3.802
Yemen	4.240	0.710	1.050	2.402	2.451	2.424	1.682
Singapore	1.251	1.272	2.773	3.082	4.210	3.653	1.940
Netherlands	2.052	3.390	1.351	3.470	4.310	3.892	4.451
Russia	24.24	25.71	18.26	16.65	10.80	13.69	35.48
Saudi Arabia	9.393	7.36	3.502	4.281	3.522	3.890	2.221
Belgium	11.55	5.741	7.67	9.45	11.03	10.24	17.68
U.A.E.	2.070	4.313	3.870	6.411	9.26	7.842	7.212
United Kingdom	16.90	15.91	16.11	10.31	4.873	7.550	2.693
Germany	4.801	4.672	7.57	7.51	8.81	8.21	4.662
Others	21.77	29.69	35.91	30.62	33.12	31.88	48.16

Source: RBI, Hand Book of Statistics on Indian Economy.

The percentage share of Tobacco to total tobacco exports has been in mixed trends in the last three decades. In the Post WTO period the average export share has gone down for Russia by huge amount. But for countries like UAE, Belgium the export share percentage has gone up in the Post WTO era. Some countries like UK & Germany have shown mixed trends in Tobacco export.

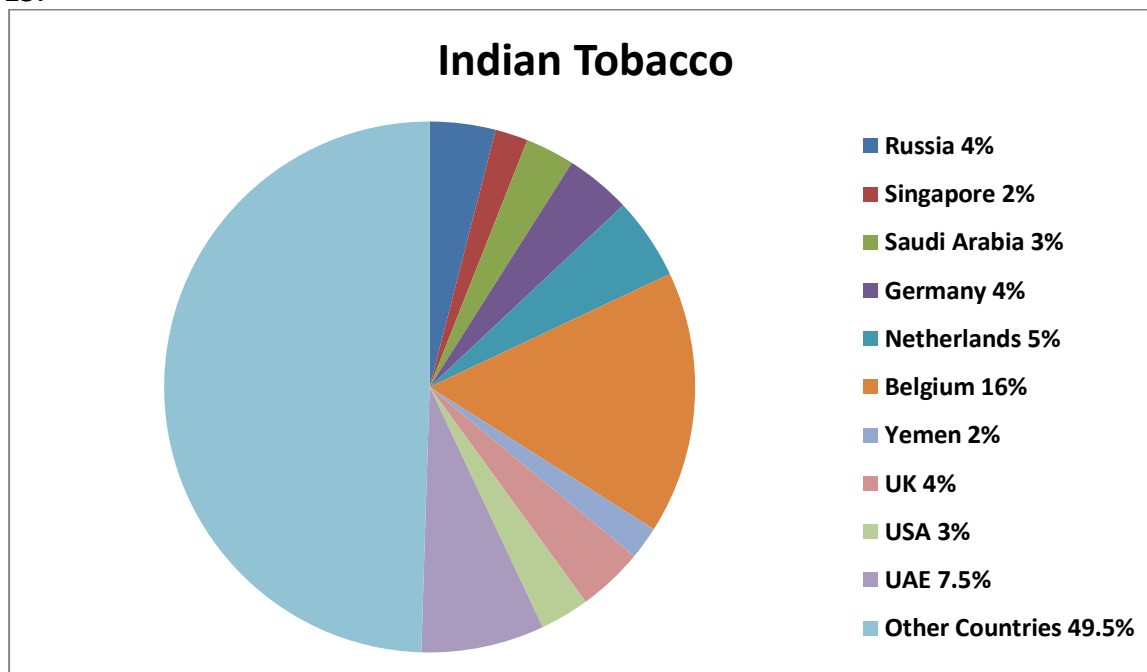
Table: 4.35: The Compound Annual Growth Rates of India's Tobacco Exports in the Pre and Post WTO Era.

Country	Pre-WTO Period (1990-91 to 1994-95)	Post-WTO Period (1995-96 to 2009-10)
U.A.E.	12.35	13.05
Saudi Arabia	-4.52	5.2
Yemen	-26.14	11.93
Netherlands	8.08	17.41
Russia	0.45	0.09
Germany	-1.08	4.99
Belgium	-11.48	14.67
United Kingdom	-1.54	3.72
U.S.A	-4.71	13.9
Singapore	-0.3	9.82
Others	4.73	10.6
Total	-0.53	8.47

Source: RBI, Handbook of Statistics on Indian Economy.

Netherlands was recorded highest in CAGR of Tobacco Exports in the post WTO era, followed by Belgium & USA. The CAGR was recorded higher for the Indian major tobacco export destinations in Post WTO period (8.47%) than in pre WTO period (-0.53%).

Chart: 4.4: Percentage wise Export share of Indian Tobacco to different major importing countries in 2014-15.



Source: WTO Data

The above Pie chart shows that the Other Countries has been the biggest importers of Indian tobacco followed by Belgium, UAE, Netherlands, and Germany etc.

Table: 4.36: Export Share of Indian Tobacco to major importing Countries (in Percentage Share)

Countries	Share in Percentage		Difference
	Pre WTO Era (1986-1995)	Post WTO Era (1996-2016)	
Russia	17	6	Decreased
Germany	7	5	Decreased
Saudi Arabia	5	3	Decreased
Netherlands	3	4	Increased
United Kingdom	11	3	Decreased
USA	5	4	Decreased
Yemen	2	2	No Change
UAE	6	7	Increased
Belgium	9	16	Increased
Singapore	3	2	Decreased
Other Countries	32	48	Increased

Source: WTO Data

The export growth of tobacco of Other Countries, Russia, UK and Belgium in the pre WTO era was high but in the Post WTO era the export growth was high for Other countries, followed by Belgium, UAE and Russia. In case of Russia the difference was negative where in case of the other countries was positive and very much encouraging.

Figure 4.19: The following Figure shows Country wise export Change of Indian Tobacco in the Pre & Post WTO period

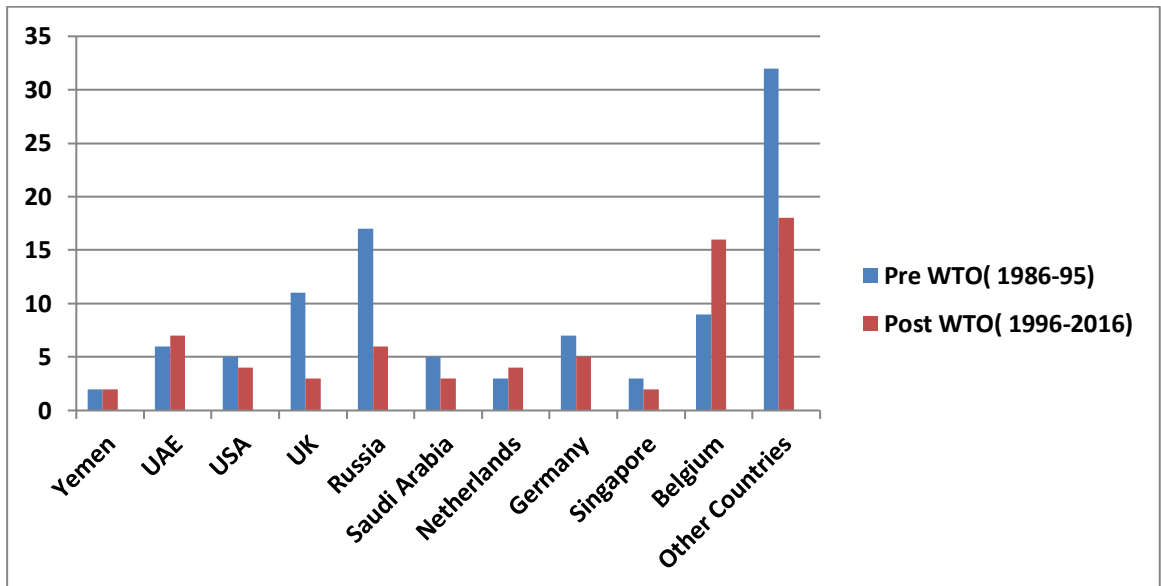
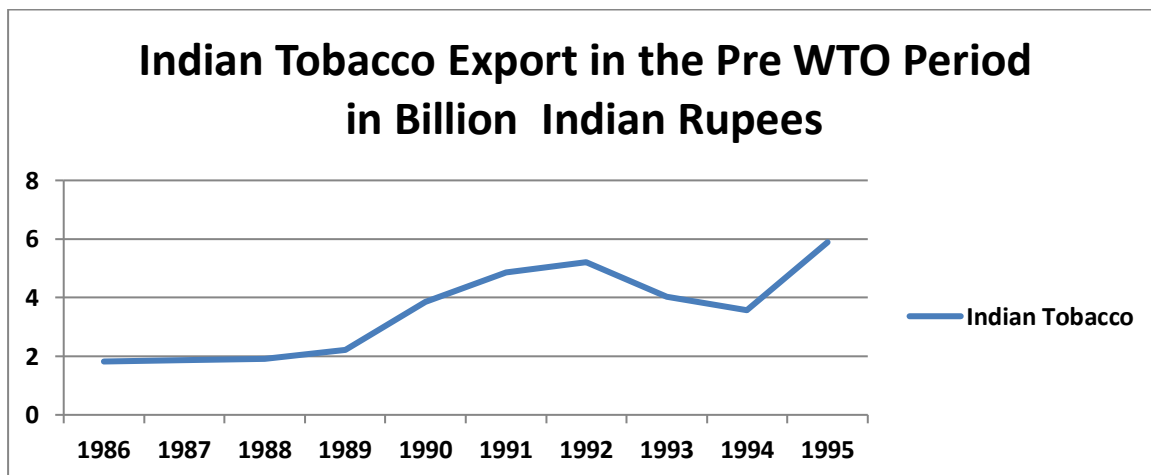
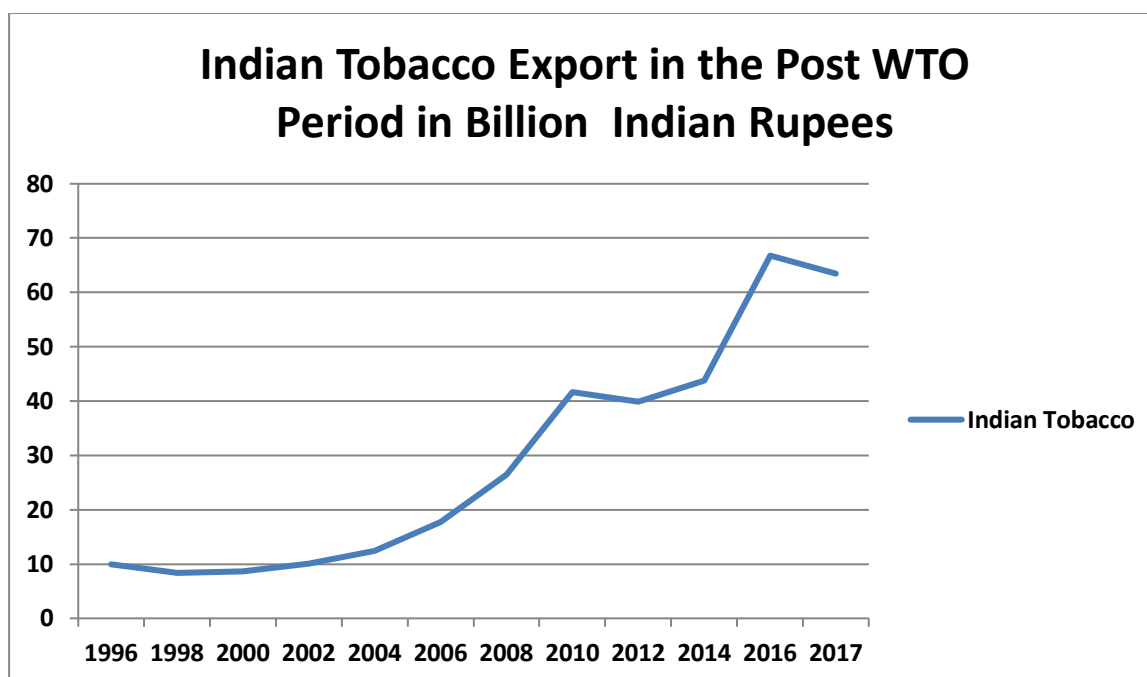


Figure: 4.20: Growth of Export of Indian Tobacco in the Pre WTO Period (Estimated in Billion Indian currencies



Source: RBI, Hand Book of Statistics on Indian Economy.

Figure 4.21: Growth of Export of Indian Tobacco in the Post WTO Period (Estimated in Billion Indian currencies)



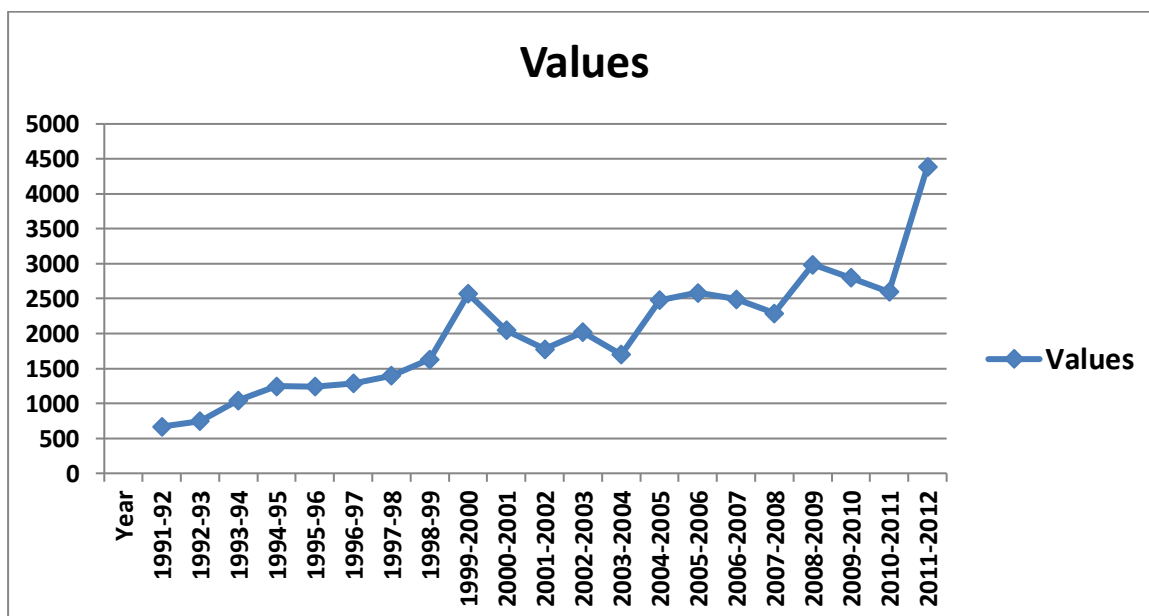
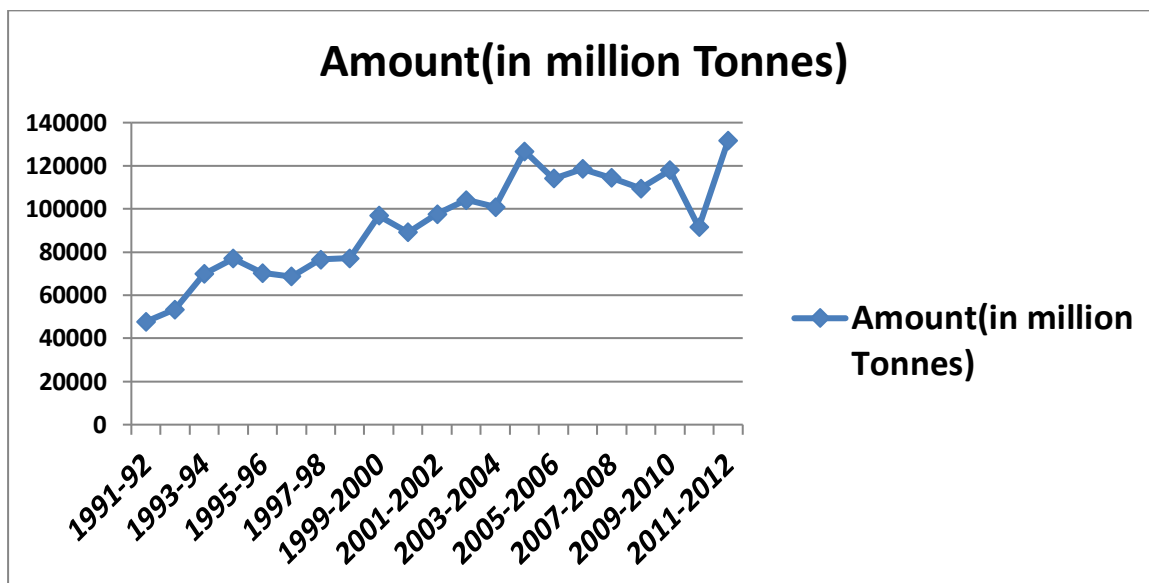
Source: RBI, Hand Book of Statistics on Indian Economy.

The above tables show that the Tobacco export in the Pre WTO era was nearly 6 billion Indian rupees (1995-96) and in Post WTO era (2016-17) it was around 60 billion Indian rupees. Tobacco is an important traditional agricultural trading commodity produced in India with around Rs 20000 crore domestic markets. India ranks 3rd position (800 million kgs) in the world in producing and exporting Tobacco after Brazil and USA.

4.9: Cashew

Cashew is among the most important traditional agricultural trading commodities of India. India is the largest producer and 3rd largest customer of raw Cashew Nuts in the world. India also ranks first in area wise comparison of cashew production in the world. South India is the largest producer part of India. The Karnataka state's Cashew production growth rate is 4.13% per year. During year 1992 to 2003 the major importers of Indian Cashew were USA, Netherlands. These countries were stable throughout in retaining export share of Indian Cashew. From 2004 to 2012 the USA, UK and Netherlands again shared the major part of Indian cashew export. The above table shows that the average value of Cashew export from 1990-92 was US\$ 247.98 million, from 1993 -95 it increased to US\$ 329.98 million. In post WTO era i.e. in 1995-98 triennium the Cashew export increased to US\$ 468.33 million which was remained flat in the period 1999-2001 within US\$ 400 million. Again in triennium 2008-2010 the export of Cashew jumped to US\$ 596.16 million. So if we compare the Pre & the Post WTO phase in Cashew Export in value term(US\$) we will notice that there has been tremendous increase in cashew Export but if we see the Global share of Indian in Cashew export (expressed in percentage) we will notice that the Indian share in exporting Cashew globally has been lower in Post WTO era as compare to the Pre WTO phase(the average Percentage share of India was 7.9% in triennium 1990-92, 8.69 in triennium 1993-95 but it became 5.35% in triennium 1996-98, and ultimately 3.3% in triennium 2008-10).

Figure 4.21.1: Data showing Export growth along with CAGR (Compound annual growth rate) of Indian Cashew (from 1991-1992 to 2011-2012) values in crore.



Source: RBI, Hand Book of Statistics on Indian Economy.

Table: 4.37: Country wise Average value of Indian Cashew Exports from India (In US\$ million)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-01	2002-04	2005-07	2008-10
Saudi Arabia	0.672	1.81	3.931	6.970	7.20	7.082	18.66

U.S.A	46.46	132.04	125.84	215.09	197.12	206.11	190.61
U.A.E.	4.970	8.071	11.71	17.69	17.16	17.42	85.02
Canada	1.631	3.770	2.071	6.230	6.032	6.130	3.270
United Kingdom	4.931	20.92	20.59	35.28	23.14	29.21	20.36
Netherlands	49.74	65.18	80.88	88.01	49.81	68.8	64.09
France	0.270	1.731	5.972	11.231	10.89	11.08	18.92
Israel	0.70	4.272	5.730	6.602	3.932	5.271	4.172
Italy	0.571	0.430	2.673	5.331	4.20	4.772	4.230
Japan	22.19	25.36	28.22	27.39	18.62	23.02	29.41
Others	115.84	66.431	82.89	48.51	52.54	50.570	157.42
Total	247.98	329.98	370.48	468.334	390.644	429.455	596.162

Source: RBI, Hand Book of Statistics on Indian Economy.

Year Wise (Triennium wise) Values of Simpson Diversity Index of Indian Cashew Exports to Several major export Destinations based on above values.

Triennium	1990-92	1993-95	1996-98	1999-2001	2002-04	2005-07	2008-10
Simpson Diversity Index	0.7004	0.7513	0.78	0.7301	0.70	0.76	0.7918

The above table indicates that the major export destinations of Indian cashew in recent times have been (2007-2012) U.S.A., U.A.E., Netherlands, UK and Japan. In the pre WTO era (in triennium 1990-92 & 1993 -95) the average value of Cashew export were (1) highest to USA then (2) Netherlands,(3) Japan, (4) UK and(5) UAE(value in terms of US\$ million). In the post WTO era (in trienniums 1996-98, 1999-2001, 2007-10) the average value of Cashew export were highest again to USA followed by UAE, Netherlands, Japan, and UK. It can be noticed that in both the Pre & Post WTO phases most of the Countries Including USA (which always remained highest in export share) retained their average share of Cashew export value as the major destinations of Indian cashew export.

The Simpson Index shows higher value for Indian Cashew export (0.7918) in triennium 2007-10 in the Post WTO period as compare to Pre WTO period's value (0.7004) which implies higher diversification of Indian Cashew export to the World in the Post WTO period than the Pre WTO period.

Table: 4.38: Country wise Average Share of Cashew Exports from India (Average value of share expressed in per cent)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-01	2002-04	2005-07	2008-10
U.S.A	18.75	40.02	33.95	45.91	50.38	47.95	31.97
Israel	0.280	1.290	1.55	1.402	1.01	1.23	0.693
Canada	0.652	1.141	0.54	1.331	1.55	1.421	0.540
France	0.101	0.520	1.62	2.390	2.77	2.570	3.18
U.K.	1.982	6.341	5.55	7.53	5.910	6.78	3.410
Italy	0.24	0.131	0.723	1.13	1.08	1.102	0.704
Japan	8.94	7.69	7.61	5.83	47.48	5.36	4.92
Netherlands	20.04	19.74	21.83	18.77	12.72	16.01	10.74
Saudi Arabia	0.272	0.541	1.07	1.49	1.86	1.65	3.14
U.A.E.	2.01	2.440	3.14	3.76	4.38	4.04	14.25
Others	46.70	20.09	22.36	10.34	13.44	11.77	26.41

Source: RBI, Hand Book of Statistics on Indian Economy

The average percentage share of Indian Cashew export in total cashew exports in the Post WTO era was maximum for U.S.A. (33.95% in triennium 1996-98 & 31.97 per cent in 2008-10) then for Netherlands (21.83% in triennium 1996-98 & 10.74% in triennium 2008-10) and UAE (14.25% in triennium 2008-10) which became second highest destinations of Indian cashew export in the Post WTO era after USA then Japan and UK.

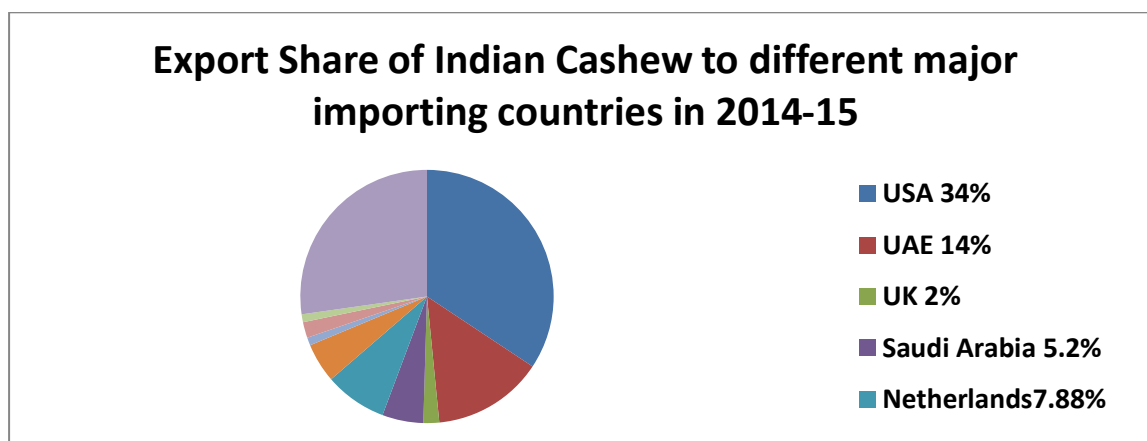
Table: 4.39: The Compound Annual Growth Rate of Indian Cashew Exports in the Pre and Post WTO Era.

Countries	Pre-WTO Period (1990-95)	Post-WTO Period (1996-10)
United Kingdom	27.24	-0.07
Japan	2.25	0.28
Canada	15	3.1
France	36.28	7.99
Israel	35.17	-2.1
Italy	-4.59	3.12
U.S.A	19.02	2.81
Netherlands	4.61	-1.54
Saudi Arabia	18.01	10.94
U.A.E.	8.41	14.13
Others	-8.85	4.37
Total	4.88	3.22

Source: RBI, Handbook of Statistics on Indian Economy.

In the Pre WTO period the major destinations of Indian Cashew export played a major role as a result of which the CAGR (compound annual growth rate) value of exports in pre-WTO period was higher (4.88 %) than the value of CAGR in the Post WTO period (3.22%). The Saudi Arabia, UAE, France and Italy shares highest CAGR Value in the Post WTO period.

Chart: 4.5: Percentage wise Export share of Indian Cashew to different major importing countries in 2014



The above Pie chart showing major export destinations of India's Cashew export where USA was the highest importer of Indian Cashew followed by UAE, The Netherlands, and Japan etc.

Table: 4.40: Export Share of Indian Cashew exports to major importing Countries (in Percentage Share)

Countries	Share in Percentage		Difference
	Pre WTO Era (1986-1995)	Post WTO Era (1996-2016)	
Canada	1	1	No change
United Kingdom	6	4	Decreased
USA	43	35	Decreased
Netherlands	18	11	Decreased
France	2	3	Increased
Italy	1	1	No Change
Israel	1	1	No Change
Saudi Arabia	1	3	Increased
UAE	4	12	Increased
Japan	6	5	Decreased
Other Countries	17	24	Increased

Source: RBI, Handbook of Statistics on Indian Economy.

Figure 4.22: The following Figure shows Country wise export Change of Indian Cashew exports in the Pre & Post WTO period

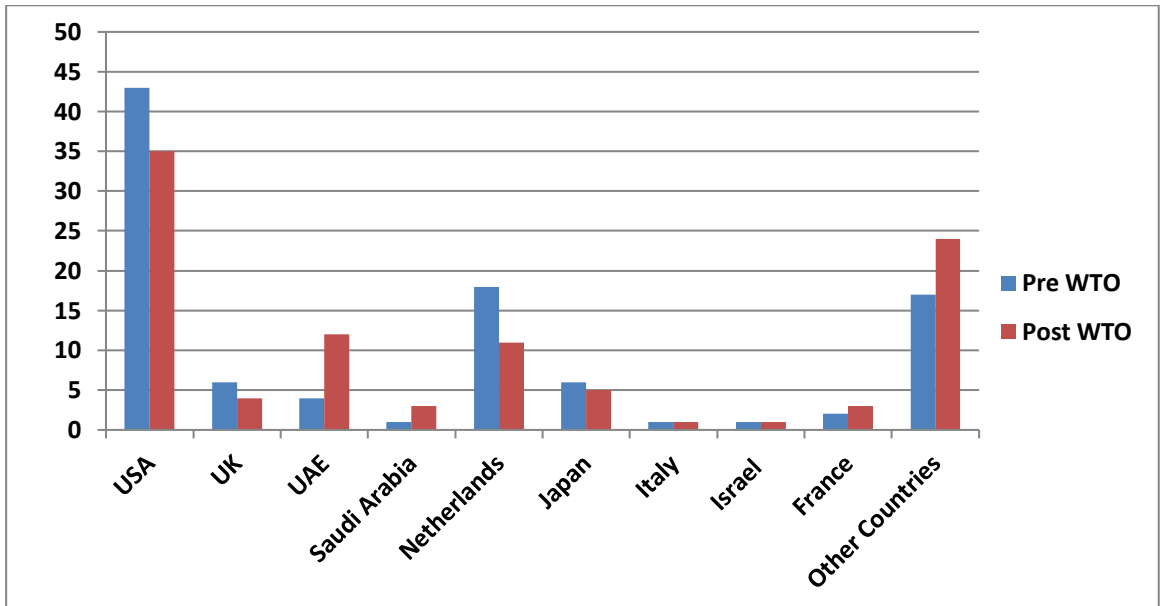
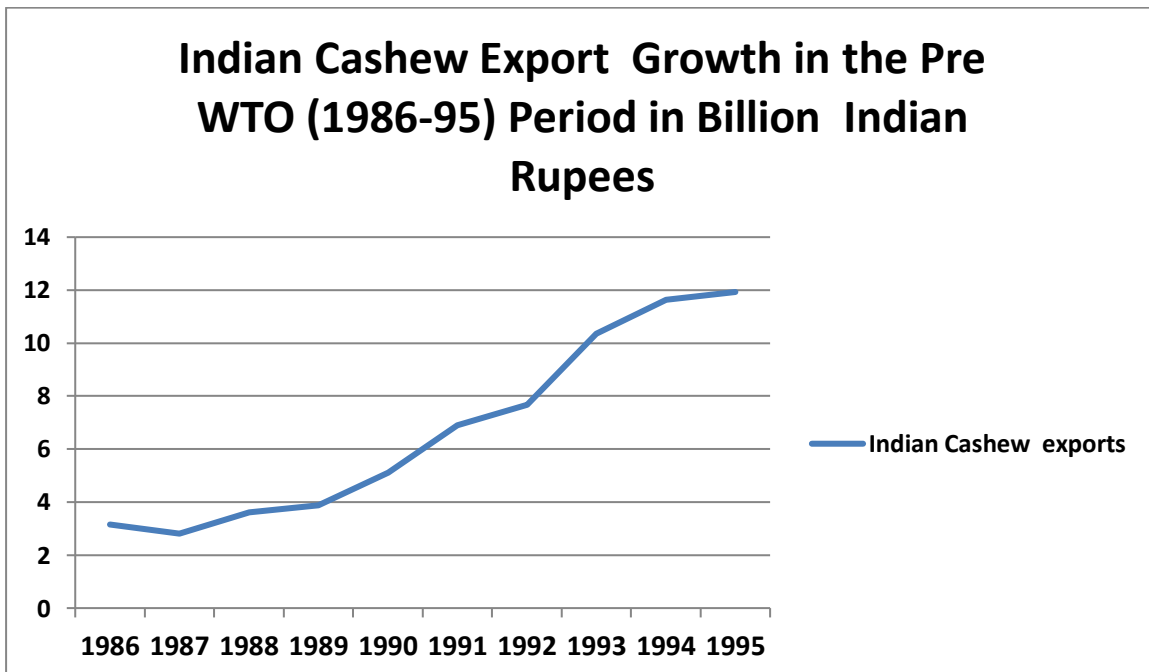
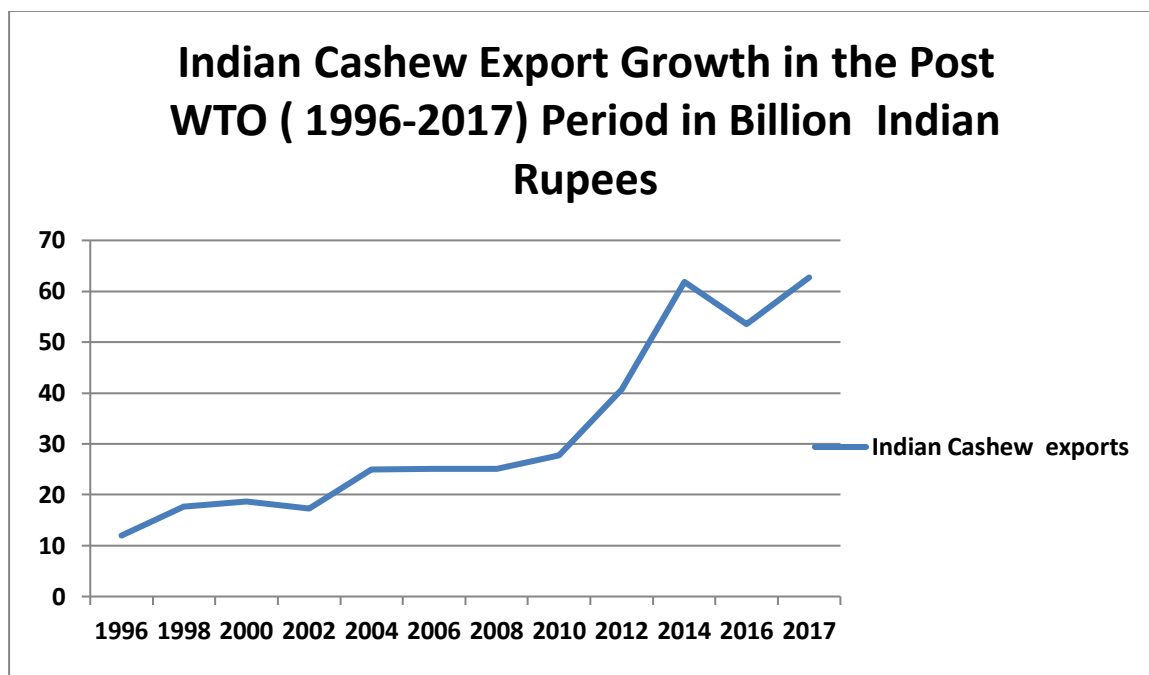


Figure 4.23: Growth of Export of Indian Cashew including Cashew Nut Shell Liquid exports in the Pre WTO Period (Estimated in Billion Indian currencies)



Source: RBI, Hand Book of Statistics on Indian Economy.

Figure 4.24: Growth of Export of Indian Cashew including Cashew Nut Shell Liquid exports in the Post WTO Period (Estimated in Billion Indian currencies)



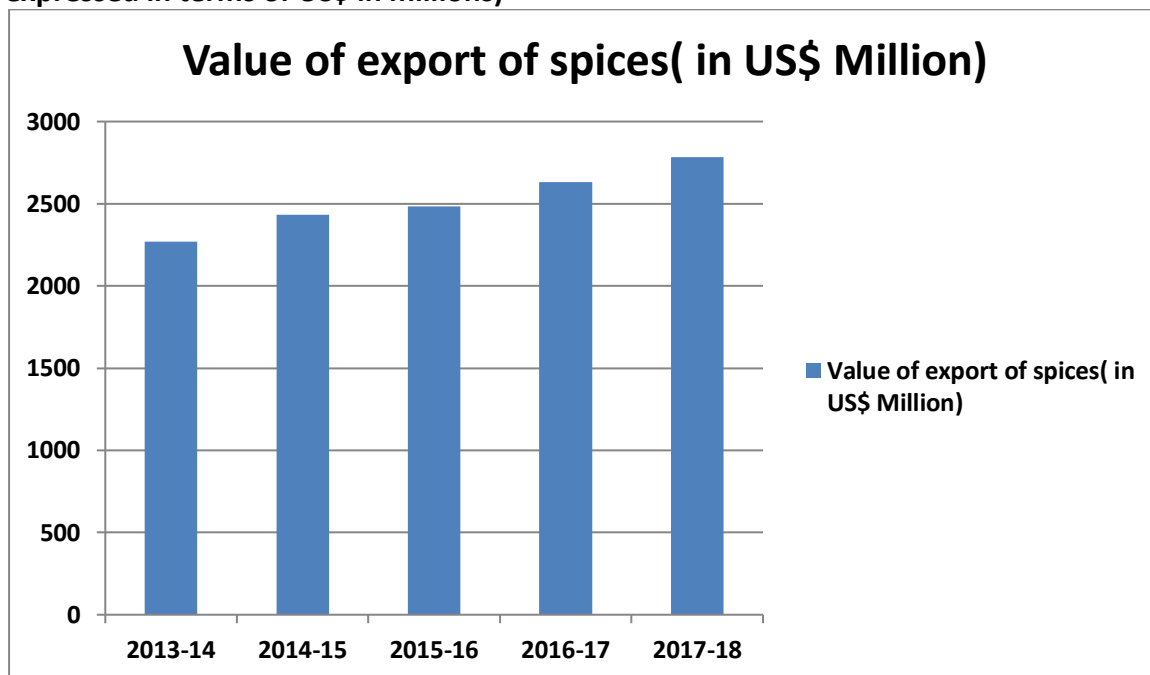
Source: RBI, Hand Book of Statistics on Indian Economy.

The above tables show Export growth of Cashew in the Pre & Post WTO phase. In the pre WTO era Cashew including cashew nut shell liquid export increased from Rs. 3.15 billion (1986) to Rs. 11.93 billion (1995). In the Post WTO era the Indian Cashew export growth has increased from RS.11.98 (1996) Billion to Rs. 62.72 billion (2017). Where in that period the import of cashew nut to India was around for RS 60 billion. In this period (1986-2016) USA has been the most loyal customer(though it has lost market share to UAE and UK) of Indian Cashew along with UK whose import share from Indian has increased in the Post WTO era where France & Japan could not retain their market share like in the Pre WTO era.

4.10: Spices

Spices have been one of the most important traditional agricultural export Commodities in India. It has long standing histories of trade with the world. India holds outstanding position in the spice trade at the global level. If we look at the trade of spices we will notice that the compound annual growth rate of spices trade both in the Pre & the Post WTO era were positive and encouraging for India. Since the Pre WTO era USA, Canada has been most loyal customer of Indian pepper and Bangladesh & UAE were the most stable customer of Indian Chilli. In the post WTO phase Malaysia & Sri Lanka has emerged to be a good Customer of Indian Chilli. The Other Countries has been the most loyal customer of Indian Cumin in the both Pre & Post WTO era. India being the largest producer, consumer & Exporter of spices, produces about 50 varieties of spices in total of about 100 different spices produced in the world that includes **Pepper, Cardamom(S & L), Chilli, Ginger, Turmeric, Coriander, Cumin, Celery, fennel, Fenugreek, Other Seeds, Garlic, Nutmeg & Mace, Curry powder & Paste, Mint products, Spice oils & Oleoresins.**

Figure 4.25: Latest export trends of Indian spices in the Post WTO regime (values expressed in terms of US\$ in millions)



Source: Spices Board of India, Ministry of Commerce & Industry, GOI.

Indian spice export in the Pre WTO era was US\$ 149.26 million in 1990-92 triennium and US\$ 171.053 million in 1993-95 triennium. In the Post WTO era the Spice & Spice product export was US\$ 318.36 million in 1996-98 triennium, US\$ 330.66 million in triennium 1999-2001, while it became US\$ 1249.20 million in triennium 2008-2010 and lastly it jumped to US\$ 2632.385 million in triennium 2015-18. The average value of Export market share of Indian spices were higher in the Post WTO era and the percentage share of export were also comparatively higher in the Post WTO period particularly in the latest trends says so.

Table: 4.41: Country wise Average value of Indian Spices Exports from India (In US\$ million)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-01	2002-04	2005-07	2008-10
Sri Lanka	5.06	5.02	7.50	9.92	16.96	13.44	45.46
U.S.A	23.74	50.92	92.171	110.92	74.24	92.57	232.84
Germany	6.76	6.91	12.12	15.48	13.81	14.64	47.78
Japan	6.28	8.82	15.36	20.46	20.46	20.46	47.39
Saudi Arabia	5.48	4.60	6.48	9.01	10.31	9.66	32.65
Singapore	3.96	6.472	13.92	14.09	8.62	11.36	42.79

Spain	1.34	1.41	7.11	7.71	6.74	7.23	12.81
Bangladesh	10.68	4.073	5.94	10.22	11.46	10.84	41.39
United Kingdom	6.72	10.68	19.132	25.06	23.72	24.41	66.96
U.A.E.	6.34	10.26	16.41	18.66	16.31	17.47	68.31
Others	72.931	61.64	122.232	141.732	127.934	134.84	610.832
Total	149.291	171.053	318.37	383.33	330.67	357	1249.212

Source: RBI, Hand Book of Statistics on Indian Economy.

Year Wise (Triennium wise) Values of Simpson Diversity Index of Indian Spices Exports to Several major export Destinations based on above values.

Triennium	1990-92	1993-95	1996-98	1999-2001	2002-04	2005-07	2008-10
Simpson Diversity Index	0.7249	0.7602	0.7532	0.77	0.7810	0.75	0.6958

In the above table country wise average value of exports of Indian Spices are shown from 1990-2010, where it can be noticed that the major export destinations of Indian spices were U.S.A., U.A.E., U.K. Germany and Japan. In the Pre WTO (1990-95) era the major importer of Indian Spices was USA (highest) then UK, UAE and Japan. After the WTO during triennium 1996-98 the major export destinations of Indian Spices was, USA, UK, and UAE. But in the triennium 2008-10 the main export share was retained by USA (US\$ 232.84 million & highest), followed by UAE, UK, Germany and Japan. So, it is clear that in the Post WTO era as well as the Pre WTO era USA has been the largest export destination of Indian Spices export.

In the Post WTO the Simpson Index shows higher value for Indian Spices export (0.696%) in recent triennium 2008-10 in the Post WTO period as compare to Pre WTO period's value (0.725%) which implies lower diversification of Indian Spices export to the World in the period than the Pre WTO period (Though in triennium 2001-2004 the value of Simpson index was 0.78% which was higher than pre WTO era).

Table: 4.42: Country wise Average Share of Indian Spices Exports from India (Average value of share expressed in per cent)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-01	2002-04	2005-07	2008-10
Spain	0.882	0.83	2.24	2.01	2.04	2.01	1.03
Saudi Arabia	3.65	2.70	2.04	2.33	3.12	2.69	2.62
Japan	4.21	5.16	4.82	5.35	6.18	5.74	3.79
Singapore	2.66	3.77	4.37	3.68	2.59	3.19	3.42
Sri Lanka	3.40	2.91	2.35	2.58	5.12	3.77	3.62
Bangladesh	7.15	2.39	1.86	2.67	3.45	3.04	3.30
U.S.A	15.88	29.82	28.96	28.89	22.45	25.89	18.64
Germany	4.54	4.03	3.81	4.02	4.18	4.08	3.83
Others	48.86	36.091	38.39	36.970	38.681	37.70	48.891

Source: RBI, Hand Book of Statistics on Indian Economy.

The average percentage share in total spices exports was maximum for U.S.A. followed by U.A.E , U.K. and Germany in recent triennium 2007-08 to 2009-10 , though USA has been showing declining trend in export share of Spices in the Post WTO era as compared to pre-WTO period. But like UAE many countries have shown increasing trend and many countries have shown mixed trends (like Japan & Singapore) of export share in Indian Spices in the Post WTO era as compare to the Pre WTO period.

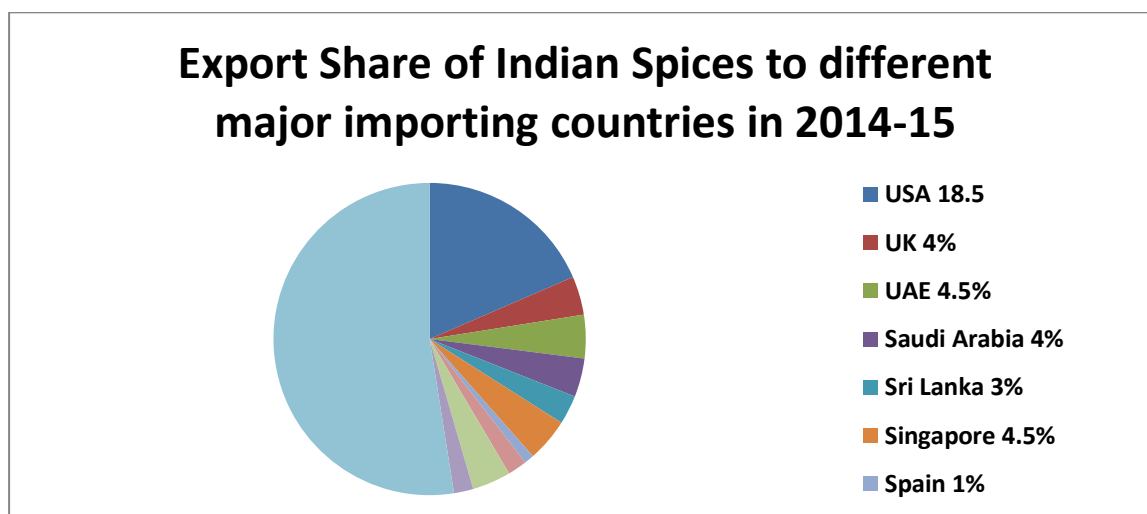
Table: 4.43: The Compound Annual Growth Rates of Indian Cashew Exports in the Pre and Post WTO Era.

Country	Pre-WTO Period (1990-91 to 1994-95)	Post-WTO Period (1995-96 to 2009-10)
Spain	.85	4
Sri Lanka	-.13	12.76
Germany	-0.37	9.58
United kingdom	8.03	8.71
Saudi Arabia	-2.88	11.38
Singapore	8.83	7.77
U.S.A	13.56	6.37
U.A.E.	8.35	9.97
Bangladesh	-14.85	13.82
Japan	5.82	7.8
Others	-2.76	11.32
Total	2.34	9.54

Source: RBI, Handbook of Statistics on Indian Economy.

The CAGR (compound annual growth rate) in the Post WTO (9.5%) era was higher than that of the Pre WTO period in pre-WTO period (2.34%).The major Indian export destinations in the pre-WTO period have found to be with high CAGR compared to post-WTO period. In the Post WTO period the CAGR of spices exports from India was highest to Sri Lanka (12.76 %), Bangladesh, Saudi Arabia, Singapore, Other countries, UAE and Germany then followed by Singapore, USA etc.

Chart: 4.6: Percentage wise Export shares of Indian Spices to different major importing countries in 2014-15



Source: Computed on the basis of data from RBI, Handbook of Statistics on Indian Economy

From the above Pie chart we can see that in 2014 the major export share of Spices were highest to USA, UAE, Saudi Arabia, Singapore, UK, Germany and Japan.

Table: 4.44: Export Share of Indian Spices exports to major importing Countries (in Percentage Share)

Countries	Share in Percentage		Difference
	Pre WTO Era (1986-1995)	Post WTO Era (1996-2016)	
Spain	2	1	Decreased
Germany	4	4	No Change
USA	27	18	Decreased
United Kingdom	7	5	Decreased
Saudi Arabia	1	3	Increased
Sri Lanka	3	4	Increased
Bangladesh	3	3	No Change
Japan	5	3	Decreased
Singapore	3	3	No Change
UAE	5	5	No Change
Other Countries	38	51	Increased

Source: RBI, Handbook of Statistics on Indian Economy.

Figure 4.26: The following Figure shows Country wise export Change of Indian Spices exports in the Pre & Post WTO period

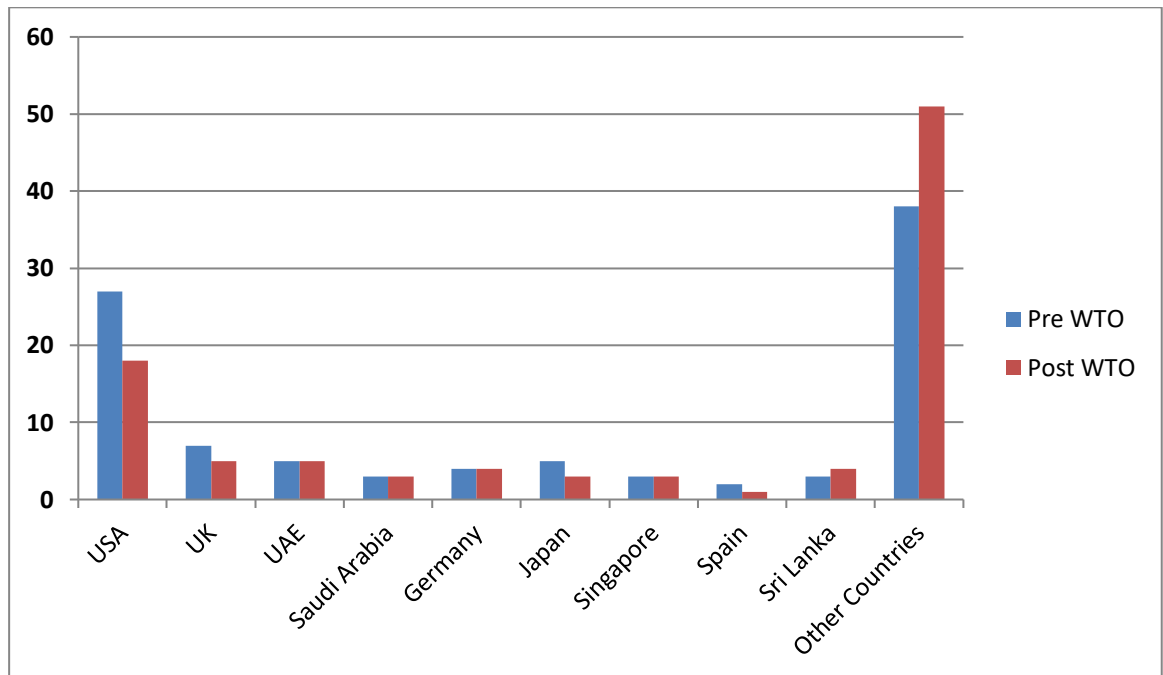
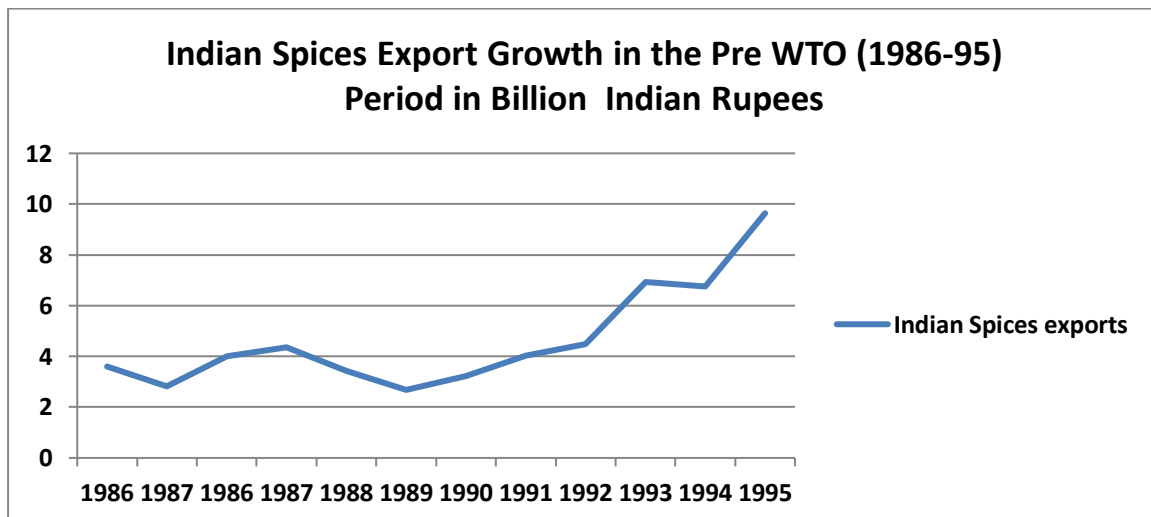
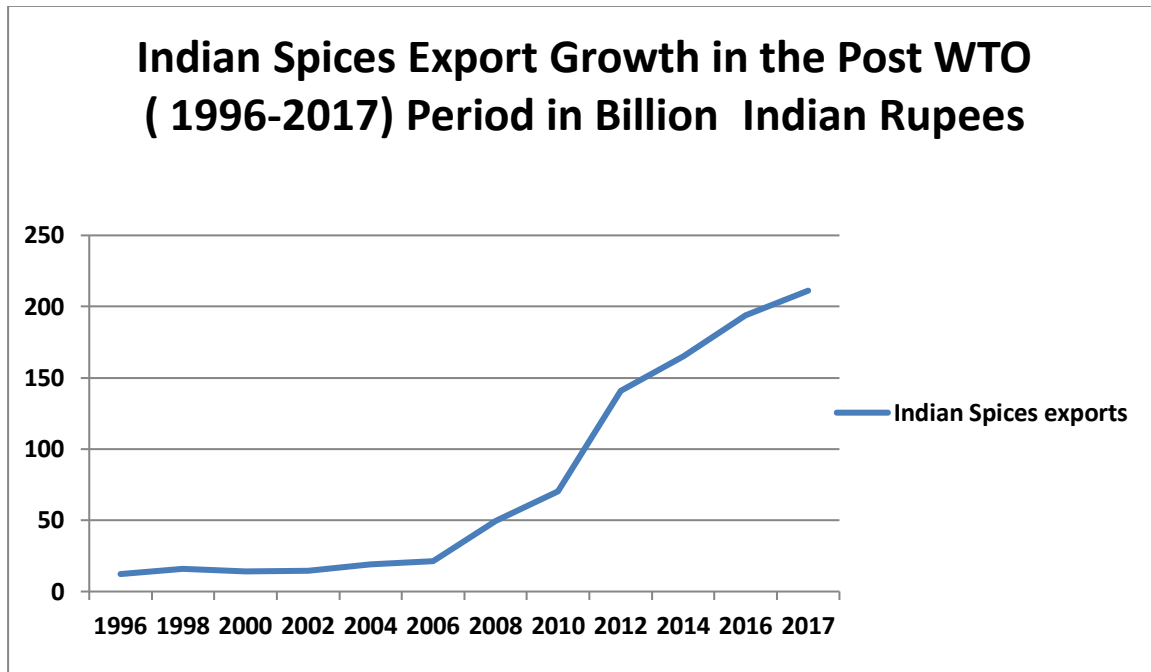


Figure 4.27: Growth of Export of Indian Spices the Pre WTO Period (Estimated in Billion Indian currencies)



Source: RBI, Hand Book of Statistics on Indian Economy.

Figure 4.28: Growth of Export of Indian Spices exports in the Post WTO Period (Estimated in Billion Indian currencies)



Source: RBI, Hand Book of Statistics on Indian Economy.

The rate of growth of Indian Spice export was higher in post WTO era as compare to the Pre WTO period. The growth of Indian Spices increased from approximately Rs. 4 billion in 1986 to Rs. 17.674 billion in 2003, jumped to approx. RS.150 billion in 2012 and lastly Rs. 211.17 billion in 2017. In the post WTO era the other countries has been the biggest customer of Indian Spices followed by USA, UK, Japan, Germany, Bangladesh, Saudi Arabia, Singapore, Sri Lanka, and Spain. As per the latest data UK has been the most loyal and stable customer of Indian Spices. Spice is influenced by 0.141 and 0.268 growth rate during pre and post-WTO

4.11: Oil Meals

Oil meals are one of the most important essential agricultural export Commodities produced in India. If we look at the above table we shall notice that the Oil meals trade export performance in the post WTO phase has declined than that of the Pre WTO period. The Indian oil meals export has increased from US\$ 359.8 million in triennium 1989-92 to US\$ 615.66 million in triennium 1993-95 in the Pre WTO era. Again The oil Meals export declined from US\$ 870.73 million in triennium 1996-98 to US\$ 503.8 million in triennium 2001-2004 , and increased again US\$ 1968.53 million in triennium 2007-2010. The average percentage value of export share of Indian Oil Meals was 11.47 in 1989-92, 16.21 in 1993-95, and 12.58 in 1996-98, to 10.99 in 2007-10 in the pre & Post WTO eras. So it is evident that though the average value of export of Indian Oil Meals was higher in the Post WTO period but the average value of percentage share of export was less in Post WTO period as compare to the Pre WTO period. If we look at the CAGR (Compound annual Growth Rate) in terms of percentage value we shall notice that the CAGR of Indian Oil Meals was higher in the Pre WTO period as compare to the Post WTO period.

Table: 4.45: Country wise Average value of Indian Oil Meals Exports from India (In US\$ million)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-2001	2002-04	2005-07	2008-10
Singapore	14.64	129.39	153.29	50.21	46.74	48.46	38.42
Thailand	13.78	61.32	57.11	31.18	45.61	38.37	153.59
Vietnam	1.01	1.08	21.64	30.22	49.62	39.94	495.21
Japan	3.12	11.61	43.44	39.14	26.48	32.79	246.51
Indonesia	0.08	0.20	122.29	57.02	80.79	68.94	169.62
Russia	102.92	16.92	8.01	6.16	0.174	3.18	0.330
South Korea	5.76	35.29	96.291	48.36	50.80	49.59	165.72
Pakistan	4.61	14.78	20.68	20.88	12.66	16.76	92.81
Sri Lanka	2.26	8.54	11.79	9.46	17.56	13.53	43.04
Bangladesh	0.23	0.33	0.772	10.21	46.01	28.10	133.51
Others	201.570	276.401	341.95	126.201	127.00	126.61	429.76
Total	359.8	615.67	870.33	429.03	503.5	466.27	1968.53

Source: RBI, Hand Book of Statistics on Indian Economy.

Year Wise (Triennium wise) Values of Simpson Diversity Index of Indian Oil Meals Exports to Several major export Destinations based on above values.

Triennium	1990-92	1993-95	1996-98	1999-2001	2002-04	2005-07	2008-10
Simpson Diversity Index	0.5766	0.73	0.7788	0.8510	0.86	0.8674	0.8455

We conduct country wise Comparative analysis of Share of Export (in %), Value of Export with export diversification (using Simpson Index) in Pre & Post WTO period (from 1990-2010) in the above table. As per table Vietnam, Japan, Korea, Thailand & Indonesia were the major export destinations of Indian Oil Meals in the recent triennium 2008-2010. The table shows in triennium 1990-92 the major importers of Indian Oil meals were Russia, Singapore & Thailand, in triennium 1993-95 it was Singapore, Thailand and South Korea in Pre WTO era. In Post WTO era the major export destinations of Indian Oil meals were Singapore (highest), Indonesia, and South Korea in

triennium 1996-98. The recent triennium of 2008-10 shows the new latest export destinations of Indian oil meals export are Vietnam (highest value US\$ 495.21million), then followed by Japan, Indonesia, South Korea and Thailand. So it is evident that Vietnam has become the new emerging export destination of Indian Oil Meals Post WTO period.

In the Post WTO the Simpson Index shows higher value for Indian Oil meals export (0.8455) in recent triennium 2007-10 in the Post WTO period as compare to Pre WTO period's value (0.5766) which implies high diversification of Indian Oil Meals export to the World.

Table: 4.46: Country wise Average Share of Indian Oil Meals Exports from India (Average value of share expressed in per cent)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-2001	2002-04	2005-07	2008 -10
Japan	0.85	1.87	4.93	9.13	5.26	7.04	12.51
Singapore	4.07	21.00	17.59	11.71	9.27	10.38	1.95
Pakistan	1.26	2.40	2.38	4.87	2.52	3.60	4.72
Vietnam	0.16	0.18	2.79	7.05	9.86	8.57	25.16
Bangladesh	0.01	0.01	0.89	2.38	9.11	6.01	6.77
Thailand	3.81	9.95	6.55	7.260	9.04	8.22	7.79
Indonesia	0.20	0.04	14.01	13.28	16.04	14.77	8.60
Russia	28.59	2.75	0.92	1.44	0.330	0.670	0.03
South Korea	1.61	5.72	11.05	11.26	10.07	10.62	8.42
Sri Lanka	0.64	1.37	1.34	2.19	3.49	2.90	2.17
Others	56.00	44.891	37.85	29.40	25.26	27.14	21.81

Source: RBI, Hand Book of Statistics on Indian Economy.

If we look at the Percentage Share of average Export, we shall notice that (table) the percentage share of total Oil meal export was highest for Vietnam (25.16%) in triennium 2008-10 from 2.79% in triennium 1996-98. The average percentage share of Indian Oil meals export to total export after Vietnam was for Japan (12.51%), Indonesia (8.60%), and South Korea (8.42%) in triennium 2008-10. Many countries import share of Indian Oil meals has gone down during the post WTO period for example Indonesia whose export share was 14.01% in triennium 1996-98 has gone down to only 8.60% in triennium 2008-10 in the post WTO era. Other countries like Japan, Singapore etc have shown mixed trend during the Pre & Post WTO era in importing Indian oil meals.

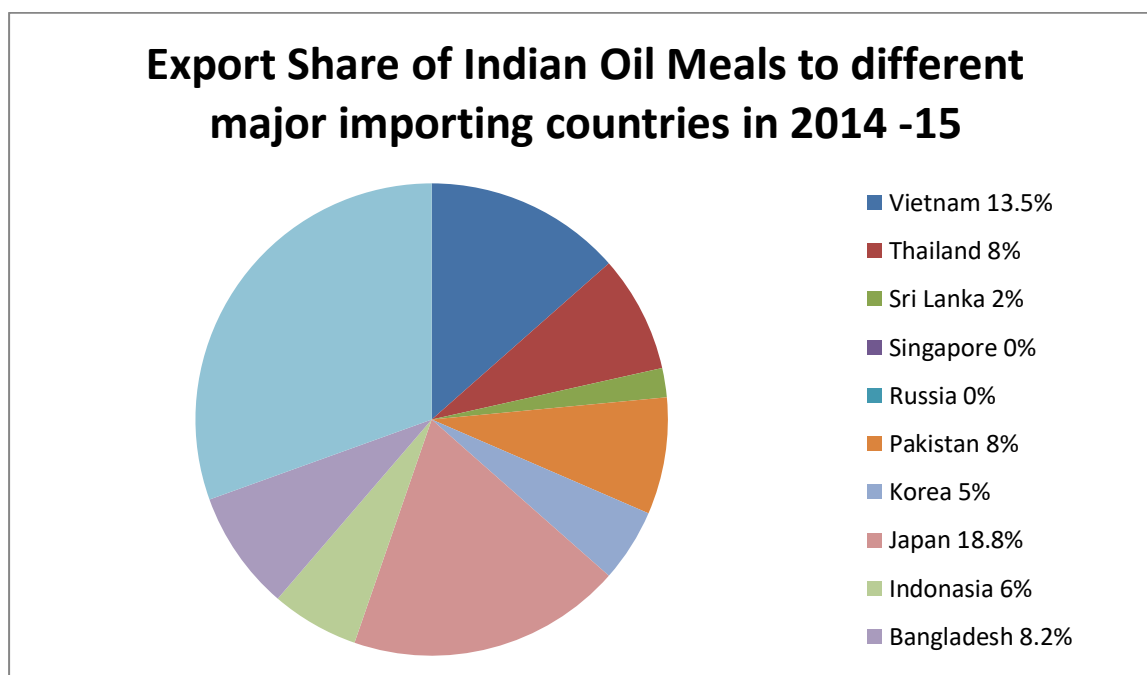
Table: 4.47: The Compound Annual Growth Rates of Indian Oil Meals Exports in the Pre and Post WTO Era.

Countries	Pre-WTO Period (1989-95)	Post-WTO Period (1996 to 10)
Sri Lanka	24.8	9.02
Vietnam	1.12	23.21
Bangladesh	6.2	41.02
Russia	-25.99	-19.15
Japan	24.48	12.27
Pakistan	21.43	10.53
Singapore	43.79	-8.81
Indonesia	16.5	2.21
Thailand	28.25	6.82
South Korea	35.27	3.69
Others	5.4	1.54
Total	9.37	5.59

Source: RBI, Handbook of Statistics on Indian Economy.

The CAGR (Compound Annual Growth Rate) of Indian Oil Meals export in the Post WTO era was highest to Bangladesh and Vietnam then to Japan and Pakistan. The CAGR of Indian Oil Meals export in the Pre WTO era was higher than that of the Post WTO era.

Chart: 4.7: Percentage wise Export share of Indian Oil Meals to different major importing countries in 2014-15



Source: WTO Data

The above pie chart shows the average export share of Indian Oil Meals to different major export destinations in 2014. Here we notice that the highest export share was for Vietnam followed by Japan, Thailand, Bangladesh, Pakistan, Indonesia and South Korea.

Table: 4.48: Export Share of Indian Oil Meals exports to major importing Countries (in Percentage Share)

Countries	Share in Percentage		Difference
	Pre WTO Era (1986-1995)	Post WTO Era (1996-2016)	
Singapore	3	3	No Change
Pakistan	3	5	Increased
Korea	9	8	Decreased
Russia	2	0	Decreased
Thailand	8	7	Decreased
Sri Lanka	2	2	No Change
Singapore	14	2	Decreased
Indonesia	13	9	Decreased
Vietnam	5	21	Increased
Japan	5	14	Increased
Bangladesh	3	7	Increased
Other Countries	36	25	Decreased

Source: RBI, Handbook of Statistics on Indian Economy.

Figure 4.29: The following Figure shows Country wise export Change of Indian Oil Meals exports in the Pre & Post WTO period

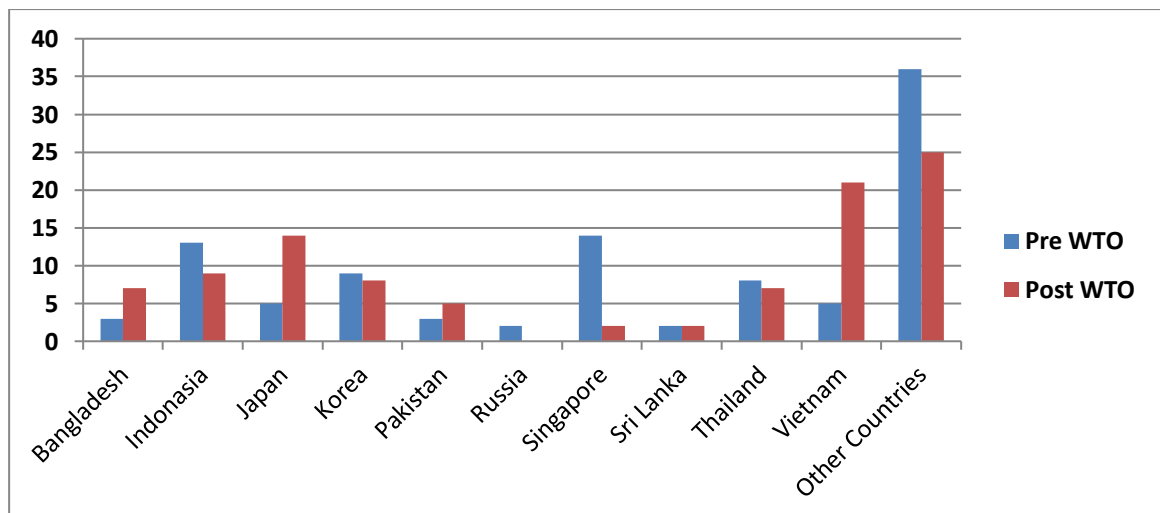
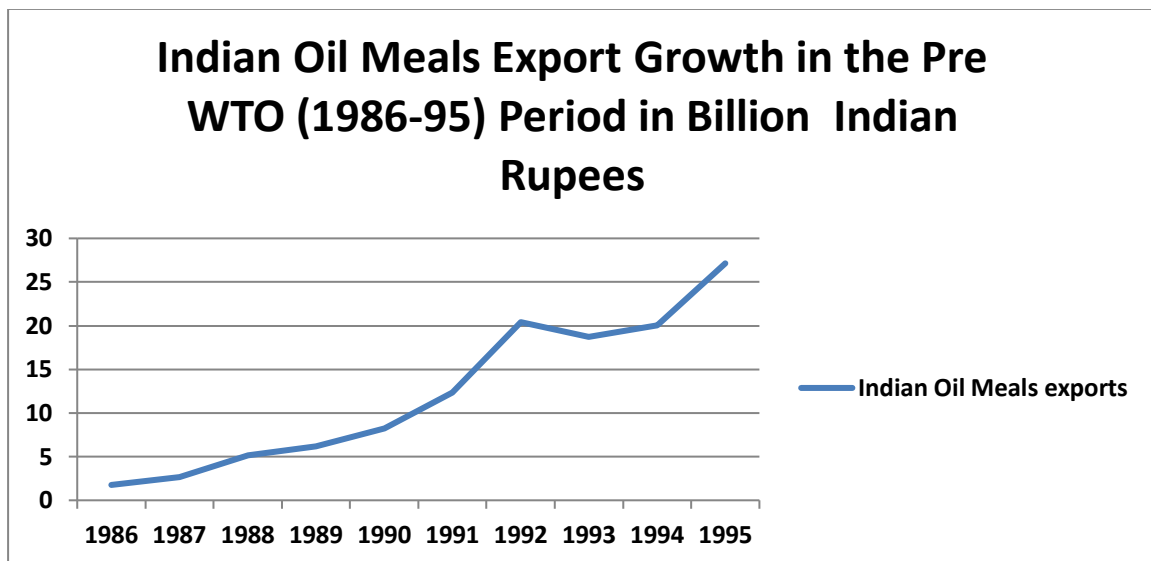
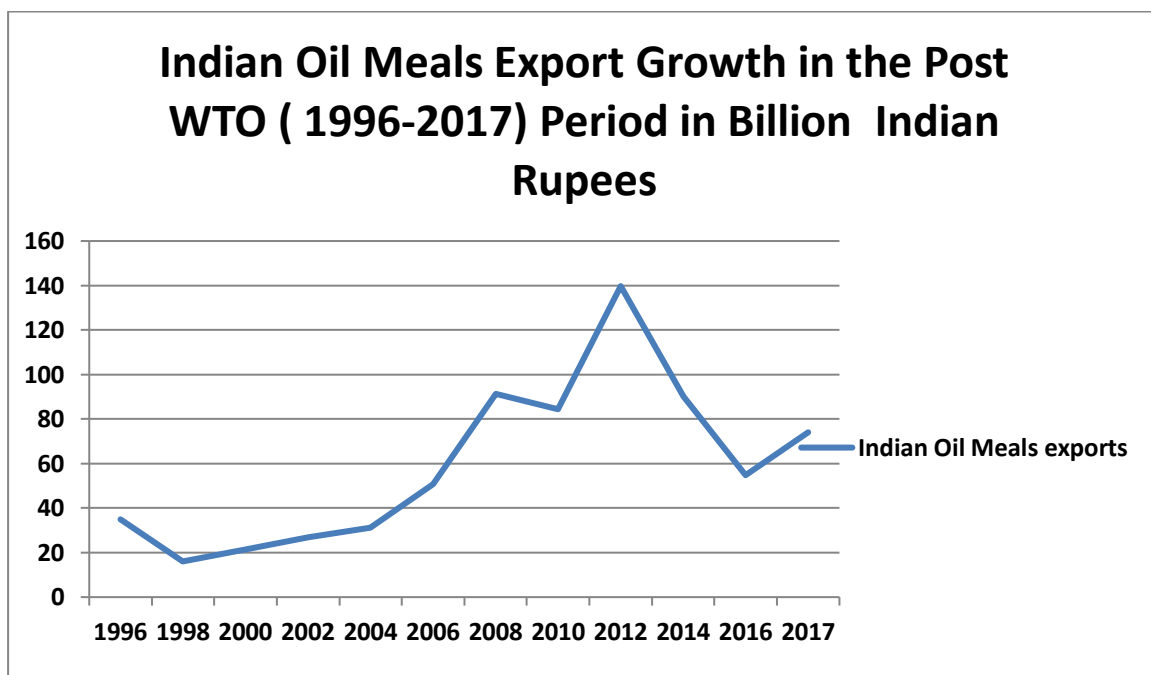


Figure 4.30: Growth of Export of Indian Oil Meals the Pre WTO Period (Estimated in Billion Indian currencies)



Source: RBI, Hand Book of Statistics on Indian Economy.

Figure 4.31: Growth of Export of Indian Oil Meals in the Post WTO Period (Estimated in Billion Indian currencies)



Source: RBI, Hand Book of Statistics on Indian Economy.

The Indian Oil meal Export growth increased from Rs. approximately 3.5 billion in 1986-87 to about Rs. 27 billion in 1995-96 and then it jumped and reached to approx. Rs. **139 billion in 2011-12**. Then it fell down to about approx. Rs. **70 billion in 2016-17**. The latest export share of Indian Oil Meals was highest to Vietnam(25%), followed by Japan (14%), Indonesia (9%), South Korea (8%), Thailand (8%), Bangladesh (8%), Pakistan(55),Singapore (5%), Sri Lanka (2%) and France. The direction of of Export of Indian Oil Meals in recent times shows Vietnam and other countries are the most stable and loyal

importer of Oil Meals from India. But for countries like Bangladesh, Thailand, Pakistan, Indonesia, South Korea, Japan & Pakistan Indian could not able to retain the previous market share of export of Oil meals like it did in the previous time. These countries were not very stable markets in terms of Oil Meal Export. As per the latest data from SEA(Solvent Extractor Association of India) export earnings from Oil meals has increased in 2017-18 period by 48% (Rs.4758 crore as compare to earlier year's Rs. 3219 crore). This phenomenal growth is the result of high export earnings growth have taken place for Rice bran Oil, Rapeseeds oil, Castor seed oil (by 209, 77, and 39 percent respectively) India. As per the SEA data the Export of certain oil Meals (Rape seed, Rice Bran, Castor seed and Ground nuts) export have jumped to increased upto 90% in 2017-18 as compare to 2016-17 (Which was Rs. 1850 crore by exporting 1837720 tonnes to earlier year's RS. 950 crore against 965011 tonnes, and FOB of Soya been reached to US\$. 487 against previous years US\$ 386 per tonne).

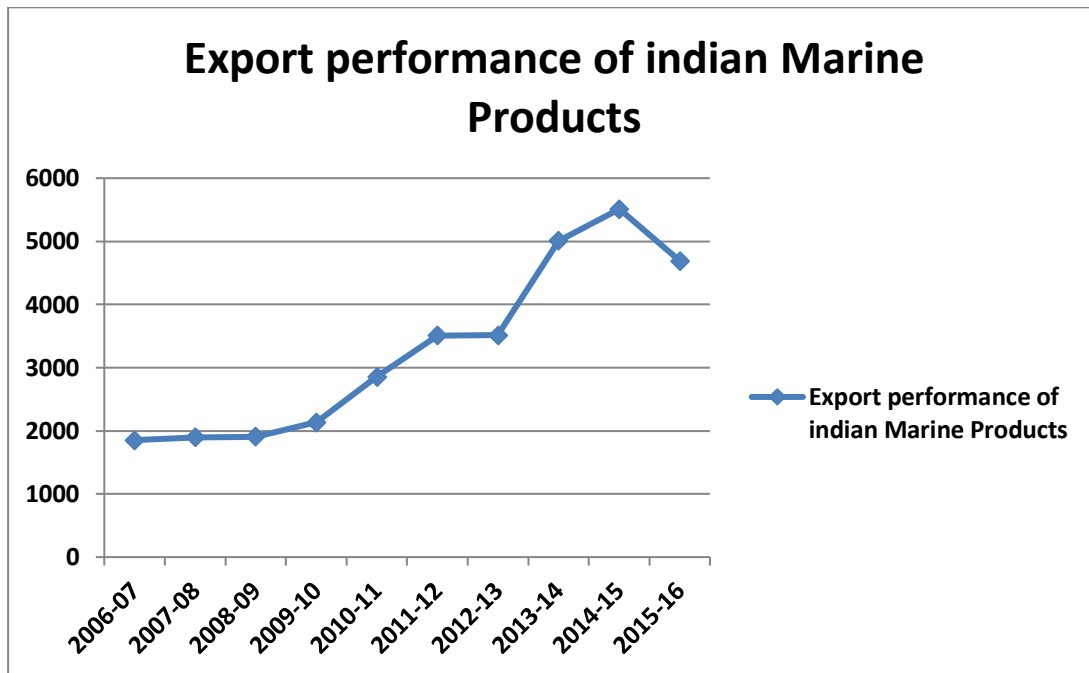
4.12: Marine Products

The Marine products are one of the crucial traditional commodities produced in India. India ranks second position after China in producing Marine products. India's global share in Marine products is around 4.2% and it exports Marine products to around 90 countries in the world. Marine Products contributes around **1% to Indian GDP, 4.5% to total agricultural production and gives employment to about 30 lakhs people in India**. India has immense potential in producing and exporting Marine products as it has 8118 km long coastline which is one of the largest in the World. States like West Bengal, Andhra Pradesh, Tamil Nadu, Kerala, Orissa, and Maharashtra are the major state that produces about 90% of India's marine products. Indian Marine Products Include **Shrimps, Cuttlefish, Frozen Fish, Squid & Dried items**.

The trade or export of Marine products has performed better in Post WTO regime. In 2011 India exported 813091 tonnes of fish & fish products which is about US\$ 2 billion worth marine products with 10% export growth rate which was highest in recent times. This has happened due to introduction of facilities and modern equipments like merchandized fishing vessels, synthetic gear materials etc, and development of infrastructure of export, preservation, Processing, and storage of Marine products. The average value of export of marine products in Triennium 1990-92 is US\$ 510 million; in 1993-95 it is US\$ 847.3 million in the pre WTO era. The volume of export increased to US\$ 1115.66 million in triennium 1996-98, US\$ 1204 million in triennium 1999-2001, US\$ 1332.36 million in triennium 2001-2004, to US\$ 1781.2 million in triennium 2008-10.

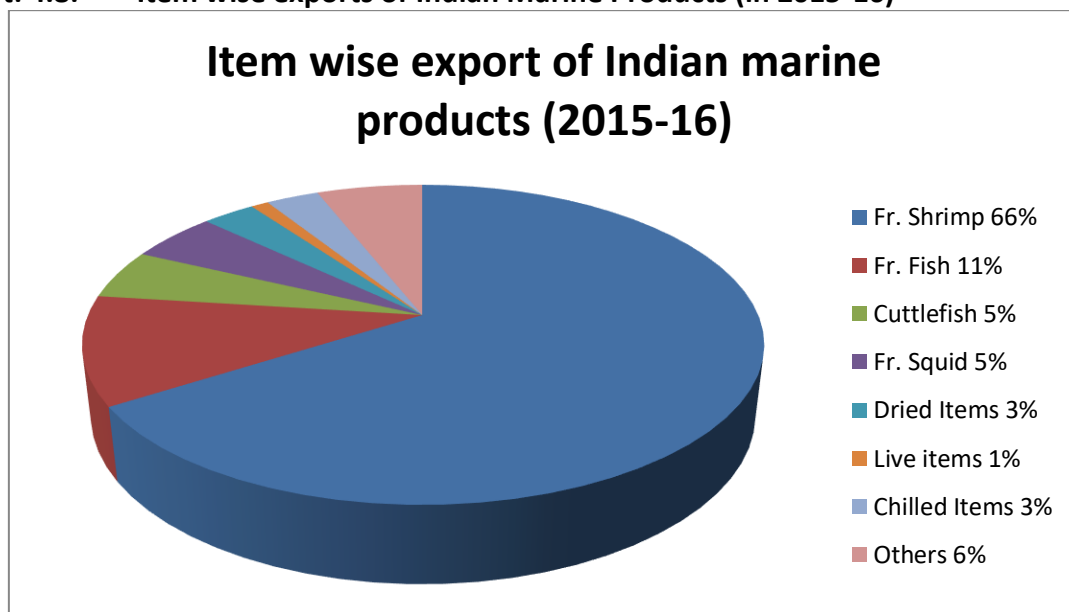
The average export percentage share of the marine products in the world was 16.29 in triennium 1990-92 , 22.3 in 1993-95 in the pre WTO era and it was 16.13 in triennium 1996-98 and it declined to 9.95 in 2008-10 triennium. So it can be said that though the average value of export of Indian marine products were high in the Post WTO period but the average percentage share of Indian marine products were comparatively less in the Post WTO era as compare to the Pre WTO period. The CAGR of export of marine products from India was higher in Pre WTO era (8.79%) than the Post WTO era (3.17%).

Figure 4.32: Export performance of Indian Marine products in recent times (value expressed in US\$ million)



Source: the marine Products export Development Authority of India

Chart: 4.8: Item wise exports of Indian Marine Products (in 2015-16)



Source: the marine Products export Development Authority of India

Table: 4.49: Country wise Average value of Indian Marine Products Exports from India (In US\$ million)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996-98	1999-01	2002-04	2005-07	2008-10
U.A.E.	9.12	61.78	112.96	72.82	37.26	55.04	61.86
United Kingdom	37.61	42.09	42.58	46.81	62.28	54.54	76.61
China	4.6	12.21	67.56	85.01	97.26	91.12	169.32
Thailand	2.18	13.86	16.82	25.51	34.24	29.88	52.21
Taiwan	0.18	4.40	13.94	17.66	29.31	23.49	29.28
Japan	250.0	374.29	484.42	496.41	302.61	399.51	246.82
Italy	24.34	34.132	34.00	24.39	32.26	28.34	75.92
U.S.A	57.49	103.38	115.51	189.36	357.29	273.32	211.72
Spain	33.89	40.74	33.04	39.029	68.62	53.82	137.76
Hong Kong	11.96	28.72	29.01	19.08	23.01	21.02	97.91
Others	84.271	131.772	165.82	188.930	288.171	238.553	621.76
Total	510.971	847.32	1115.66	1204.93	1332.37 1	1268.65 3	1781.17

Source: RBI, Hand Book of Statistics on Indian Economy.

Year Wise (Triennium wise) Values of Simpson Diversity Index of Indian Marine Products Exports to Several major export Destinations based on above values.

Triennium	1990-92	1993-95	1996-98	1999-2001	2002-04	2005-07	2008-10
Simpson Diversity Index	0.7093	0.75	0.7587	0.77	0.8213	0.82	0.8212

We conduct country wise Comparative analysis of Share of Export (in %), Value of Export with export diversification (using Simpson Index) in Pre & Post WTO period (from 1990-2010) in the above table. As per the above table the major export destinations of Indian marine products was Japan, U.S.A., China, Spain and Hong Kong in the recent triennium 2008-10. The average value of exports of Indian marine products in T.E. 1990-92 was highest to Japan followed by U.S.A., U.K. and Spain, in triennium 1993-95 it was maximum to Japan, U.S.A., U.A.E. and U.K., in the triennium 1995-98 it was maximum

to Japan followed by U.S.A., U.A.E. and China, In recent triennium 2008-09 to 2009-10, it was maximum to Japan, then to U.S.A., Spain, China and Hong Kong. Thus it is evident that both in the pre & Post WTO Japan retained its position as the highest importer of Indian Marine product.

The Simpson Index shows higher value for Indian Cashew export (0.82%) in triennium 2008-10 in the Post WTO period as compare to Pre WTO period's value (0.71%) which implies higher diversification of Indian Cashew export to the World in the Post WTO period than the Pre WTO period.

Table: 4.50: Country wise Average Share of Indian Marine Products Exports from India (Average value of share expressed in per cent)

Countries	Pre-WTO Period		Post-WTO Period				
	1990-92	1993-95	1996 -98	1999-01	2002-04	2005-07	2008-10
Italy	4.77	4.04	3.05	2.1	2.43	2.24	4.27
China	0	0.01	6.01	7.06	7.31	7.19	9.52
U.A.E.	1.77	7.30	10.11	6.03	2.78	4.32	3.41
Thailand	0.43	1.62	1.50	2.10	2.55	2.34	2.91
Hong Kong	2.33	3.38	2.58	1.59	1.73	1.66	5.50
Japan	48.91	44.16	43.41	41.18	22.69	31.39	13.79
U.S.A	11.26	12.18	10.34	15.70	26.79	21.49	11.87
United Kingdom	7.36	4.95	3.82	3.89	4.70	4.30	4.29
Spain	6.64	4.81	2.97	3.22	5.14	4.23	7.72
Taiwan	0.04	0.53	1.24	1.47	2.20	1.86	1.65
Others	16.39	15.49	14.87	15.66	21.621	18.802	34.89

Source: RBI, Hand Book of Statistics on Indian Economy.

It has been observed that a significant amount of reduction in percentage share of Indian marine product taken place in case of Japan in the post WTO era (It has reduced from 43.41% in 1996-98 to 13.8% in triennium 2008-10) as compare to the Pre WTO era. In the recent triennium 2008-10 the average percentage share of Indian Marine products was highest to Japan, followed by USA, China, and Spain. For some countries the average percentage value of export share has increased in the Post WTO era like China, for some countries it has shown a mixed trend like USA and Spain.

Table: 4.51: The Compound Annual Growth Rates of Indian Marine Product Exports in the Pre and Post WTO Era.

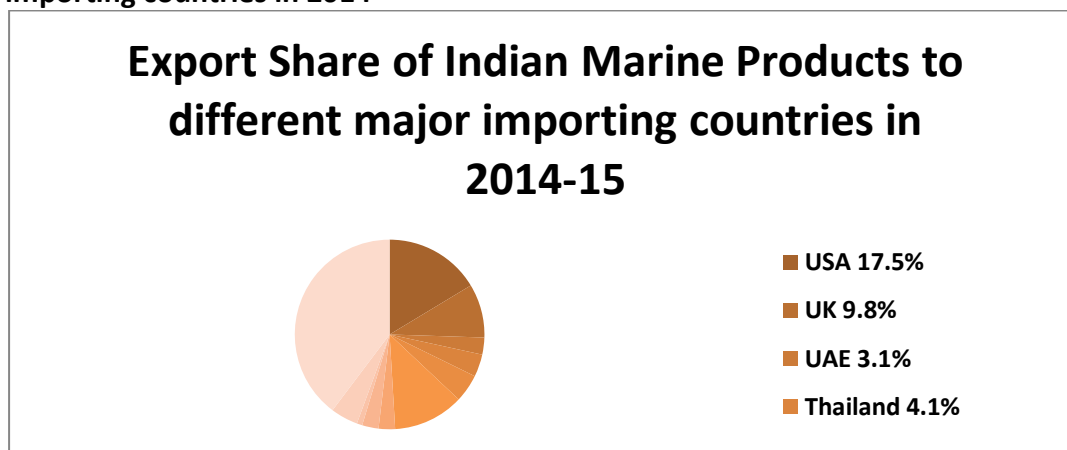
Country	Pre-WTO Period (1990-91 to 1994-95)	Post-WTO Period (1995-96 to 2009-10)
China	17.92	6.32
Taiwan	70.36	8.07
Hong Kong	15.72	8.45
Italy	5.8	5.5
Japan	6.96	-4.4
Spain	3.12	9.99
Thailand	36.11	7.84
U.A.E.	37.55	-3.93
U.K.	1.89	3.99
U.S.A	10.27	6.32
Others	8.14	9.21

Total	8.79	3.17
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Source: RBI, Handbook of Statistics on Indian Economy.

In the Post WTO period the CAGR (Compound annual growth rate) of Indian Marine product export was less (3.17) than the Pre WTO period (8.79%). It is because the major Indian Marine product export destinations registered higher CAGR as compare to Pre WTO era. In the Post WTO period Spain, Hong Kong, Taiwan Thailand and China registered higher CAGR.

Chart 4.9: Percentage wise Export share of Indian Marine Products to different major importing countries in 2014



Source: RBI, Handbook of Statistics on Indian Economy

The above pie chart shows the average export share of Indian Marine Products to different major export destinations in 2014. Here we notice that the highest export share was for USA, followed by Japan, UK, PRC, Spain, and Thailand.

Table: 4.52: Export Share of Indian Marine Products exports to major importing Countries (in Percentage Share)

Countries	Share in Percentage		Difference
	Pre WTO Era (1986-1995)	Post WTO Era (1996-2016)	
Thailand	2	3	Increased
Italy	3	4	Increased
United Kingdom	4	4	No Change
Spain	4	7	Increased
UAE	6	3	Decreased
P.R.C.	6	8	Increased
Taiwan	1	2	Increased
Hong Kong	2	4	Increased
USA	18	16	Decreased
Japan	36	14	Decreased
Other Countries	18	35	Increased

Source: RBI, Handbook of Statistics on Indian Economy

Figure 4.33: The following Figure shows Country wise export Change of Indian Marine Products in the Pre & Post WTO period

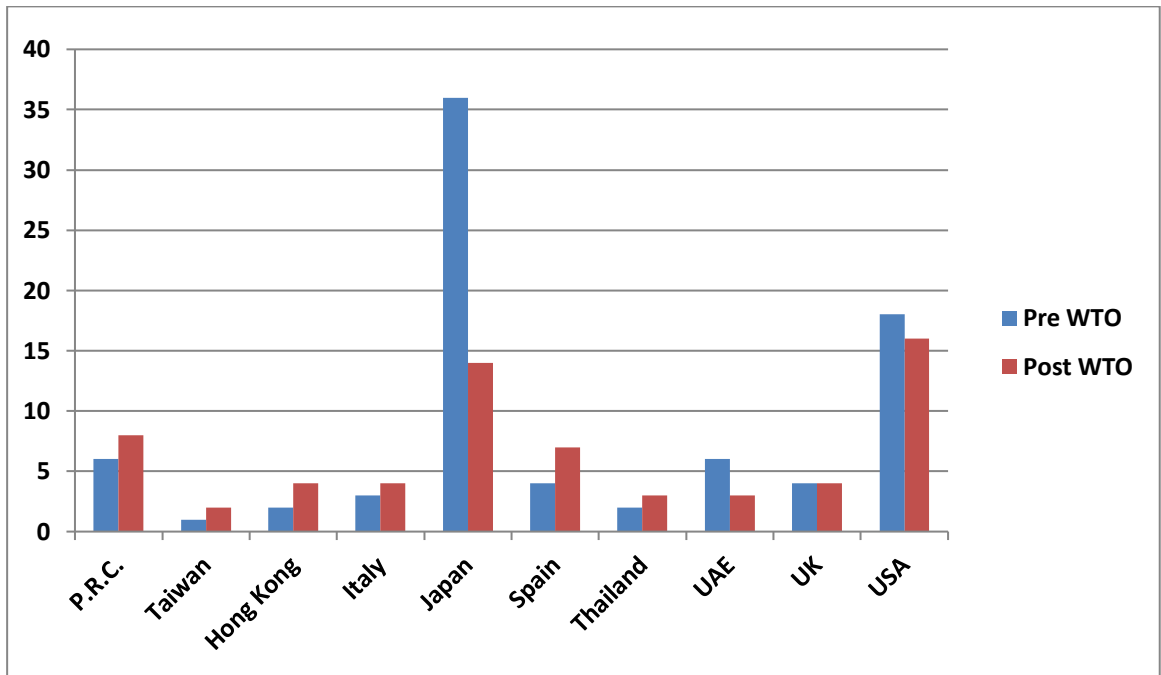
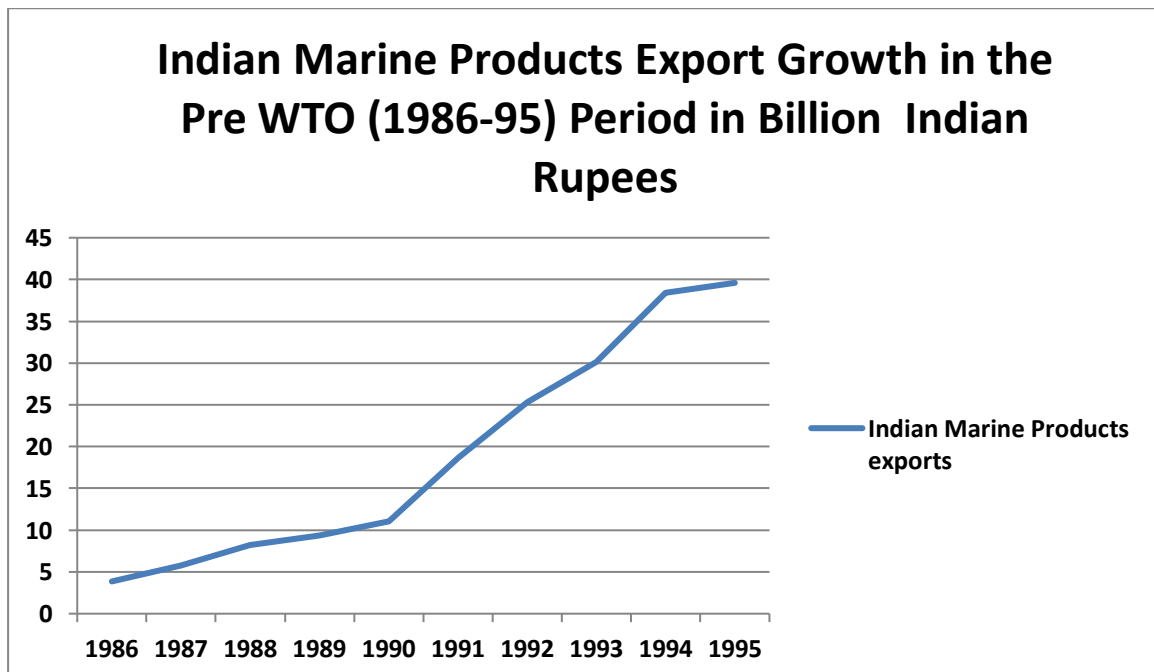
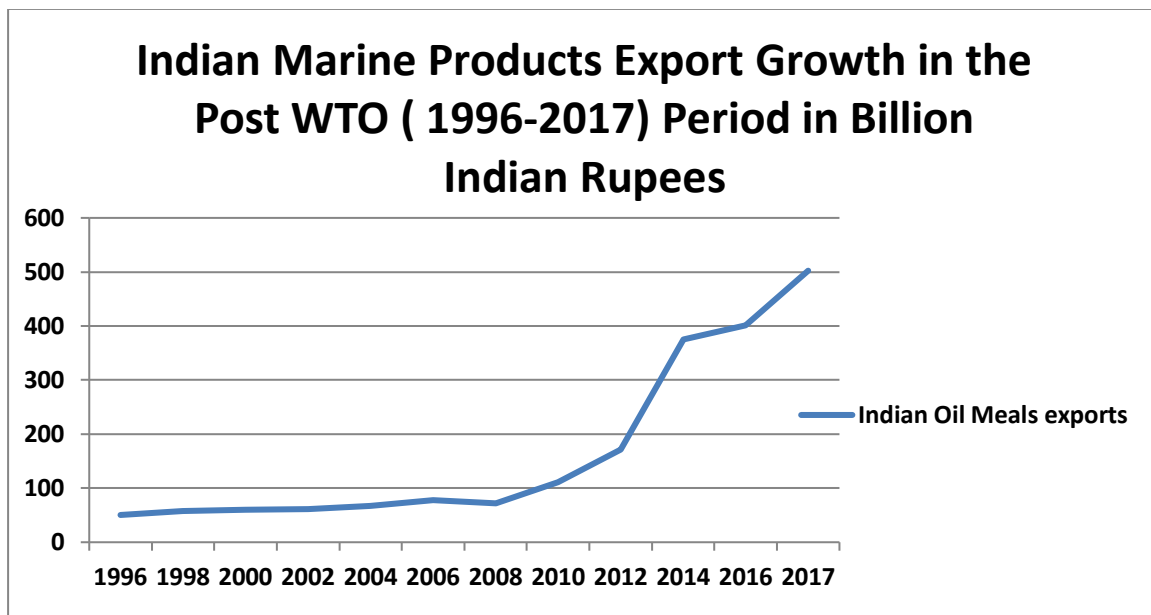


Figure 4.34: Growth of Export of Indian Marine Products the Pre WTO Period (Estimated in Billion Indian currencies)



Source: RBI, Hand Book of Statistics on Indian Economy.

Figure: 4.35: Growth of Export of Indian Marine Products in the Post WTO Period (Estimated in Billion Indian currencies)



Source: RBI, Hand Book of Statistics on Indian Economy

The Indian Marine Product Export growth increased from Rs. approximately 4 billion in 1986-87 to about Rs.59 billion in 2001, then it was approximately RS. 75 billion in triennium 2007-10, then it reached to approx. Rs. 139 billion in 2011-12 and ultimately approx. Rs 500 billion in 2017. As per the recent data by Marine Products development authority of India the declining markets of Indian marine exports are EU (26%), Spain ,UK, Italy, USA (23%), Japan(16%) and the emerging markets for Indian marine products are Vietnam, Belgium, Canada, Germany, Hong Kong and China (14%). The major Challenges of Indian Marine product export in the Post WTO era is imposition of anti dumping duty by the USA (2004), Phyto sanitary measures imposed by Japan and EU on Indian marine products, Dependency of India on USA and Japan as single market and on single exporting commodity (Shrimp) created saturation of market demand and limitation of Export, rising petroleum cost also created hindrance in exporting of marine products by inducing input cost for export to rise.

4.13: The Overall Impact of WTO on Indian Agricultural Commodity Trade:

The overall impact of WTO on Indian Agricultural Trade is somehow positive, in the sense that the share of Indian agricultural export has increased tremendously (about 2.06% in 2011 and it has become one of the biggest exporter among the few leading exporting countries) in the post WTO period for example Meat & meat products, Spices, Tobacco, Fruits & Fruits Products, and several horticulture products, where some commodities registered higher growth rate of export in the Post WTO period than the Pre WTO one, some other commodities are there which have registered comparatively less growth rate in export in the Post WTO period than the Pre WTO period for example .

The year 1997- 2001 shows a clear fall in the growth rate of export of agricultural commodities, sometimes the growth rate registered very poor marking; sometimes even negative growth rate was

registered. There are some conditions which are responsible for this reason. For example in the year 1997 witnessed a sheer depression in the East Asian countries. Besides agriculture there was also felt slow down of agricultural trade worldwide. The reason of this was Restrictions on world agricultural export, tariff & Non- Tariff Barriers on some of the major agricultural export like Rice, Wheat etc.

Some of the decisions of the Developed countries took toll on the agricultural trade of the Developing Countries which was giving huge subsidies to their agricultural exporting commodities. But During 2001 to 2004 the Indian agri-export fluctuated lot for example Indian agri-export showed improvement in the year 2001-02 but due to economic crisis of Japan, South East and East Asian nations like Indonesia, Malaysia, Thailand and Bangladesh. Then again in 2006-09 the agri-export showed some trends of recovery but due global recession during 2008-10 and huge decline in agricultural commodity demand particularly in US and EU, the Indian agricultural trade faced huge fall in export and it affected domestic agricultural production also. With some positive indication i.e. growth in export of some of the major agricultural commodities like **sugar, cotton, Spices, Meat , Oil Seeds and fruits & Vegetables the Indian agricultural export registered 12.39% growth** which is higher in a small amount than the previous year's growth which was 10%. This was because at this time share of growth of manufacturing in GDP was much higher than Agriculture.

The character of Indian agricultural export has gone through considerable change in the post WTO period as compare to the Pre WTO period where some product has shown Growth in export rate, some has mixed trend where some showed sheer decline. The major export destinations of Indian agro-produces are Bangladesh, Thailand, Japan, Malaysia, Singapore, UAE, Indonesia, EU, Saudi Arabia & the US. In the Post WTO era the average value of the total export might have increased but the percentage share decline as compare to the Pre WTO period. During the four consecutive years Indian 2010, 11, 12, 13 Indian agricultural exports experienced much Diversification which was proven to be beneficial for the agri-export. In the Post WTO era the major agricultural commodities which have shown **high comparative advantage** and export growth was, **Rice, Meat, Jute, Spices, Sugar, Cotton , Fruits & vegetables** while those have not include **Tea, Coffee, ,marine products, Tobacco etc.** The products which have shown higher amount of **Export Diversification** in the Post WTO era particularly in 2010,11, 12, 13 was **Cashew, Rice, Spices, Processed foods, Tobacco & fish & fish products.**

The promise made by the WTO & AOA is seems to be non matching with the aftermath reality of the Post WTO period as the AOA regime apprehended that liberalisation of Agricultural trade would increase the demand of agricultural commodities of the developing countries and there by the price of those commodities would rise in the Post WTO era but the opposite thing has happened the price of most of the major agricultural trading commodities of India has fall down during the post WTO period which have given a blow to the domestic exporters. This was one among big reasons for falling of export during the Post WTO period. The reason behind this was huge domestic support and export subsidies provided by the developed countries to their agricultural sector. And as a result of this price fall the agricultural importing countries have profited a lot where exporters like India have faced sheer loss during this period. The major causes of the fall of export growth during the Post WTO era as compare to the Pre WTO era was (1) Breaking the promises by the Developed countries to reduce domestic subsidies (Blue box, Green Box, Amber Box) which led the International price of major agricultural commodities to fall. (2) The WTO has some where failed to protect developing nations from fall in their export due to price fall and influencing developed countries to reduce trade distorting subsidies, (3) Other than the AOA issues India also suffers from lack of agricultural development domestically. Apart from institutional and infrastructural backwardness and

underdeveloped market mechanism lack of modern scientific management, mishandling, not accustomed in using of new technologies in agriculture, poor infrastructure which damages to the crops, low productivity and poor value addition of the raw & processed products, lack of diversity in agro produces, lack in quality standard to meet international level and lack of R & D & use of modern Biotechnology are among the major reason for fall in export in the post WTO regime when surge in food products took place throughout the world but India fails to meet the newly emerged world order and advanced market expectations.

4.14: Stringent difficulties before India's Export Trade:

A number of reasons are responsible for India's declining performance in the trade of Agricultural export. This is discussed in the following Points

- AOA was suppose to back the Developing nations in the free trade competition with commitment to reduce tariff & Non Tariff barriers, Cut down domestic support in form of Subsidy , facilitated greater market access.
- India & Most of the developing nations lack of proper infrastructure to meet the norms like SPS & TBT measures.
- India & Most developing nations lack investment in Biotechnological R &D and implementation.
- India & Most developing nations lack Scientific & coherent management system for handling raw produce.
- India and most developing nations fail to strike balance between new free trade norms and domestic policy which denies sustainable growth.
- The high price of raw materials in case of fruits & vegetables affects the food processing industry. Lack of variety & kind and at larger quantity & constant supply i.e. industrial production of raw material do not at all places occur to India.
- India lags behind in producing quality raw material as compare to the developed countries, as result, the processing units also are not able to be utilized to the full capacity. The developed nations put tough challenge in front of India in respect of high quality production of raw materials.
- India lags behind in making management and marketing strategy which can ensure a stable export market for processed foods.
- Poor infrastructure in terms of lack of power and water supplies to the Industries, poor connectivity, dearth of large vehicles or goods carriers, insufficient post harvest management program, short of cold storage facilities, poor quality packaging procedure, not using Bio-degradable materials which don't go in accordance with the demand of the importing countries- is one of the major reason for the poor performance of India in export trading.
- Last but not the least countries of North America, Asia, & Europe have raised various trade barriers which act as a stumbling block in the way of India's export trade of agricultural products.

4.15: Summery & Conclusion

A comparative study of India's export and import trade in agricultural products and produces in Post & Pre WTO era sheds light on some of the important findings. The export & import of some produces and products have increased where as some have decreased and some have shown stability. In Post WTO era, other than some commodities like Cashew nut, wheat etc principle commodities have shown improvement in export growth rate. And in case of Import other than

some commodities like edible oil & Cashew nuts many other commodities indicate positive growth rate. In so far as percentage share of contribution in export in the post WTO era is concerned, though the export of **sugar, juices, Processed foods, Tobacco, Spices, Fruits & vegetables and Rice has increased, most other commodities** have decreased where as Meat, raw cotton etc have remained same in the contribution to the percentage share as Pre WTO era. Now in so far percentage share index in import is concerned other than the commodities like edible oil, Bulk Consumption of good have increased which contributed to the increase percentage share. **In the export of Tea**, in Post WTO period countries like US, UAE, Kazakhstan, Iran have increased, Poland, Russia, Germany have decreased and UK & Japan maintained the same as in the pre WTO era. **In case of Coffee** Italy and Belgium have increased and Germany, USA, Russia, Netherland have decreased where as UK, Switzerland Latvia maintained importing as before. **As Indian marine products** are concerned, In countries like Thailand, Indonesia, Malaysia, Spain, Italy, China, Taiwan export has increased : UK remained same as before: USA, Japan and UAE has decreased in import. **In the field of oil meals** Vietnam, Japan, Bangladesh, Pakistan have increased import from India: Sri Lanka have shown stability where as South Korea, Russia, Thailand, Singapore and Indonesia have decreased. **As export of India's rice** is concerned, rice export in Belgium, Italy, Yemen, UAE, and Kuwait has increased: In Singapore Share percentage remained as before where as In France, South Africa, Bangladesh, Saudi Arabia, USA, UK has decreased. **In Case of Spices** Sri Lanka has increased importing Spice from India: USA, Spain, UK, Japan has imported Spice in comparatively of less value and Saudi Arab, Germany, UAE, Singapore, Bangladesh imported in the same amount before.

In the Post WTO era India has increased export of Tobacco in Netherlands, UAE and Belgium: where as India's export has decreased in countries like UK, USA, Singapore, Germany and Saudi Arabia. The other countries have been the most reliable and stable as a Group in both the Pre & Post WTO period to import Indian tobacco.

India has witnessed a clear shift in the mode of production & consumption of the agricultural product in their post WTO period. **A new trend in consuming high valued agricultural commodities rather than traditional commodities that struck the World in the Post WTO era didn't leave India Unaffected. Therefore trade in high valued products like fruits & fruit Juice, Eggs, Fishery Items, Marine Products, Meat & Meat Products, Milk & dairy Products, Vegetables replaced the Export of Wheat, Rice, Gram, Pulse, Sugar, Tea, Tobacco, Coffee etc.** After 2001 this trend has sped up. By increasing quality and food safety measures India has huge potentiality for the agricultural trade in the domestic market with huge demand and at the same time strike a tough competition as a global player in the international arena.

Recommendations:

During WTO period India has achieved increased world market share for some Agricultural commodity export but failed to achieve export market share and growth in export for many other commodities. This may be because of (a) Poor policy strategy and Mismanaged implementation at places, (b) Breaking of WTO commitment in case of domestic subsidy and using of Non-tariff barriers (SPS & TBT) and Anti-dumping measures by OECD countries to developing nations like India.

India has been late runner in highly competitive and rapidly changing global scenario of trade, and consumer demand along with lack of Infrastructural & Institutional facilities. India has been maintaining all WTO policies with outmost commitment to free & fair multilateral trade and for that it has liberalized its Agricultural sector along with other sectors of its Economy, eliminated all export/import license system and quantitative restrictions (QR), maintaining de- minimis

level, reduces domestic subsidies, its applied tariff rate is much lower than its already low Bound tariff rates, it has open up market access in most of the major sectors for foreign investors like Telecom, Insurance, Civil aviation, Retail market along with many other areas of domestic Infrastructure so it is a passive conformist of WTO policies.

In the following we have put forward some recommendations in this respect.

- (1) Promoting Public-private partnership to the effect of inviting more investment in the **infrastructural development** to achieve an integrated system covering the entire procedure involving processed food beginning with production to processing to packaging to marketing . More Integrated domestic market leads to more effective global competition.
- (2) Post WTO agriculture features **Bio-technological trend** which requires mass educations and training at the grassroots level so that crop growers are aware of the latest techniques and the benefits.
- (3) The Governments both at **state and at the centre** should develop **harmonized policy** to back the regional exporters to promote agricultural export surplus. There should be provision of funds to the small regional exporters to encourage more export.
- (4) Effective policy for better implementation of SPS and TBT measures, ensuring effective functioning of **Codex standards** to guarantee food safety for both domestic and global market: Compulsory education of **SPS** for the farmers and food processing factory owners is necessary.
- (5) Government should venture into forging policy to bring about new trend of contrast and corporate farming and association of farmers should be motivated to Grow crops with the view to marketing both at regional and global level. Their procedure includes creation of and driving to **SHGs for farming**, nurturing crops, production of seeds etc.
- (6) Following the shifting trend in the Post WTO period in the consumption of Food Govt. should make policies toward production of more high value produces than traditional commodities.
- (7) **Diversifying crop production** and experimenting with Production of more cash crops regarded as high value crop through Horticulture, Floriculture etc and also livestock rearing, Fishery, herbal and medicinal plants can open up new opportunities.
- (8) Development of **basic infrastructure** of agriculture has been shaped into agri-trade industry after WTO is imperative. Development of road way & connectivity, transportation heavy goods carrier, supply of water & electricity are must.
- (9) **Effective market strategy** should be prepare to boost up India's trade both import & export withy age old trading partners like CIS countries, African Nations, USA, EU and south Asian countries.
- (10) **Biotechnological R & D** in the field of agriculture can bring about revolution in agri-trade because it propagates low cost and high yielding productivity. So effective policy should be taken to inspire Public-private partnership in establishing more research institute. India's rank is third in Asia pacific so far as patent filing is concerned and India is one among the top most five countries that under takes R & D in agriculture. There should be maximum and strategic utilization of low cost physical force, Intellectual & Biological resources to the effect of cost effective production.
- (11) Government should take step toward **crop insurance** starting from the production to the last step of export. The banks of the country should come forward in this regard. The ministry

of agriculture with APEDA and EXIM Bank should make provision for easy credit for Agriculture to promote export.

- (12)** For technical help & guidelines Farm Export Promotion Cell should be opened to Provide Aid to the Farmers & Exporters in every Agricultural Export promoting Zones. This kind of Service should be provided in every state.

Another challenge for India is to strike a balance between Neo-Liberal trade policy and farmer's rights and labour law. The concept that the commodity exporting countries has no influence to impart on export prospect should be reviewed. **Export trade is monopolized by certain MNCs** and medium & small enterprises that form small part of the whole supply chain have little or no influence on exportable commodities in trade. We can raise example of Tea & coffee for instance where if the small growers or **Tea leaf pluckers be integrated with the global value chain** and minimize other inefficiencies including transaction cost then all farm sector would be benefitted in this new world trade regime. The Government of India needs to play proactively positive role in raising the **small & mediocre enterprises by institutional support** like promotional campaign, **Branding, labelling, advertising, Innovative marketing** etc. This will encourage new investment at domestic level and a more strategic integrated trade relation between domestic and global supply chain of same commodity will be achieved. To do away with the MNC's monopoly in both buying and selling, India can forge such policies to create a globally integrated domestic market to invite FDI in multiband retail sectors and cutting down tariff rates by improving irrelative bargaining position so that Investment may come from all sides including domestic, foreign and in form of joint venture. Along with reducing export subsidies India should assure international quality standard and safety measures of its Agricultural exports, it should be more vocal in raising voice against violation of trade norms by Developed nations on WTO forum and confirm for strategic implementations of WTO policies which is not only meant for fair international trade but has inclusive character for the safety & security of domestic agricultural sector and its inputs.

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