

CHAPTER 5

EXPORT PERFORMANCE AND COMPETITIVENESS OF MAJOR HORTICULTURAL CROPS IN INDIA

5.1 Introduction

This chapter deals with analysis of the second and third objective of the study which analyzed the 'Export Performance and Competitiveness major Fresh Fruits and Vegetables from India. Percentage and regression method has used for second objective. Revealed Comparative Advantage Method has used for third objective which explained competitiveness among major fresh fruits and fresh vegetables from India.

5.2 Export Performance of Fruits

To analyze the export performance of major fruits the growth rate of major fresh fruits such as Apple, Banana, Guava, Grapes, Mango, Monic, Litchi, Papaya, Pineapple, Pomegranate and Sapota was computed and shown hereafter.

Table no. 5.1 Export Performance of Apple				
Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	19296		1339.29	
2002-03	15632.4	-18.99	1571.89	17.37
2003-04	9032.49	-42.22	1317.64	-16.17
2004-05	23225.2	157.13	2634.98	99.98
2005-06	30043.9	29.36	3812.91	44.70
2006-07	25970.8	-13.56	3138.66	-17.68
2007-08	32655.3	25.74	3330.79	6.12
2008-09	44552.2	36.43	5222.01	56.78
2009-10	26739.3	-39.98	3210.34	-38.52
2010-11	47077	76.06	5974.7	86.11
2011-12	30067.2	-36.13	9147.11	53.10
2012-13	23805.9	-20.82	5151.38	-43.68
2013-14	36188.9	52.02	8631.41	67.56
2014-15	20386.6	-43.67	5298.16	-38.62

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA
Note- Quantity in M.T., Values in Rs- Lakhs

Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

The largest export destination of India's Apple (73.94%) in 2013-14 was Bangladesh and India was produced 3.3% apple (5th rank) in the total world apple production related year. The above table 5.1 represents the export performance of Apple in terms of Quantity and Value. Maximum time it has observed that if growth rate of exported quantity has increased, then the value of export has also increased but in 2002-03 when growth rate of exported quantity was -18.99 per cent, then positive growth rate in value has observed with 17.37 per cent. A moderate growth rate in export performance of apple has observed from 2001-02 to 2014-15. Many fluctuations has observed with positive and negative growth rate in exported quantity and value. by observing overall trend of apple it can be say that export performance was highest in 2005-06 with 157.13 percent and 99.98 percent respectively in terms of exported quantity and value due to increased production in India. By comparing 2002-03 to 2014-15, 24.68 percent and 21.25 percent decrease in exported quantity and value have observed respectively. The result of simple regression analyzed that on average 1115.36 thousand Quantity has been changed due to one year change of time and Value on an average 497.50 Lakhs rupee export of Apple has been changed due to one year change in time. These changes in Quantity of Apple and Value can be easily understood by the help of below figure no. 5.1

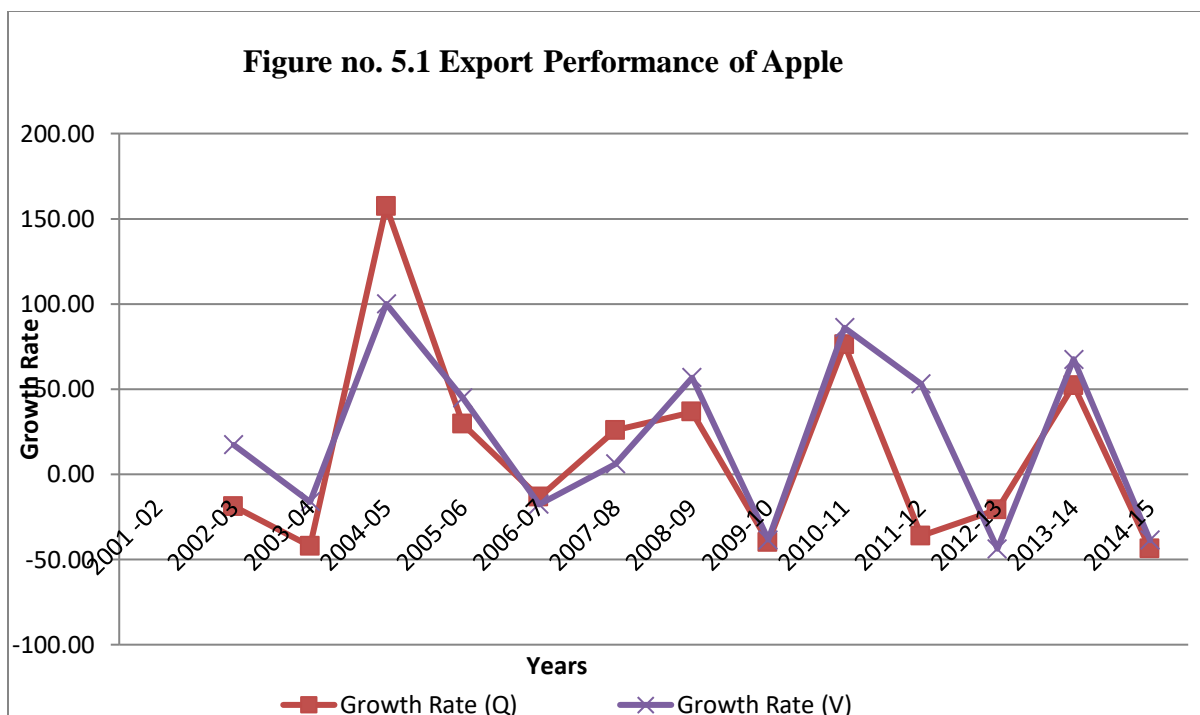


Table no. 5.2 Export Performance of Banana

Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	8099.62	-----	1583.94	-----
2002-03	8614.28	6.35	1263.22	-20.25
2003-04	10876.78	26.26	1171.82	-7.24
2004-05	12817.74	17.84	1342.76	14.59
2005-06	14411.13	12.43	2336.19	73.98
2006-07	11475.62	-20.37	1606.78	-31.22
2007-08	16662.54	45.20	2607.95	62.31
2008-09	30401.46	82.45	5545.47	112.64
2009-10	54319.24	78.67	13025.45	134.88
2010-11	57539.24	5.93	10232.22	-21.44
2011-12	45581.84	-20.78	9154.94	-10.53
2012-13	50003.64	9.70	13063.59	42.69
2013-14	34927.5	-30.15	15384.95	17.77
2014-15	63790.78	82.64	24250.77	57.63

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.
 Note- Quantity in M.T., Values in Rs- Lakhs
 Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

Banana is the second most important fruit crop in India next to Mango. The largest export destination of India's Banana in 2013-14 was United Arab Emirates (43.2%) after then Saudi Arab (16%) and by India 27.8 per cent Banana was producing in the total world Banana production in 2013-14. The above table 5.2 represents the export performance of Banana in terms of Quantity and Value. Maximum time it has observed that if growth rate of exported quantity has increased, then the value of export has also increased. In 2002-03 and 2003-04 when growth rate of exported quantity was increased, but growth rate of Banana's value was not increase. But in 2006-07 and 2010-11 the quantity and value both have decreased due to lack of exported quantity from India. Further in 2013-14 quantity has decreased but their higher prizes value has not decreased. In 2014-15 Banana's quantity and value have increased. By comparing 2002-03 to 2014-15, 76.29 percent and 37.38 percent increase in exported quantity and value have observed respectively. The result of simple regression analyzed that quantity on average 4523.91Metric Tones has been changed due to one year change of time and Value on an average 1670.32 Lakhs rupee export of Banana has been changed due to one year change in time. These changes in Quantity of Banana and Value can be easily understood by the help of below figure no. 5.2

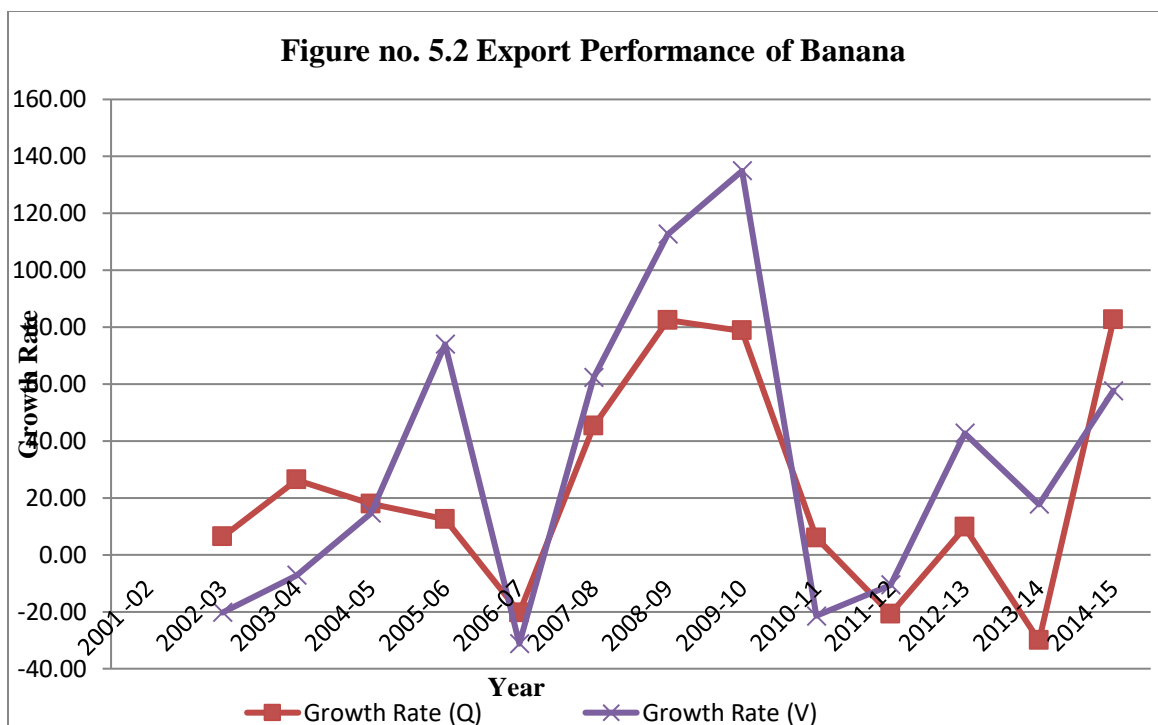


Table no. 5.3 Export Performance of Grapes

Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	14571.03	—	5995.6	—
2002-03	25567.98	75.47	10867.18	81.25
2003-04	26469.64	3.53	10368.38	-4.59
2004-05	38898.34	46.95	12643.8	21.95
2005-06	53908.3	38.59	21382.87	69.12
2006-07	85562.88	58.72	30058.49	40.57
2007-08	96723.21	13.04	31706.78	5.48
2008-09	118132.93	22.14	36706	15.77
2009-10	117246.81	-0.75	43106.53	17.44
2010-11	92437.11	-21.16	39101.3	-9.29
2011-12	94860.02	2.62	51675.64	32.16
2012-13	140966.5	48.60	98204.37	90.04
2013-14	152896.88	8.46	143900.50	46.53
2014-15	94569.91	-38.15	97359.02	-32.34

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.
 Note- Quantity in M.T., Values in Rs- Lakhs
 Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

India was 3.8 per cent grapes produced in the total world grapes production and largest export destination was Netherlands (37%) in 2013-14. The above table 5.3 represents the export performance of Grapes in terms of Quantity and Value. Maximum time it has observed that if growth rate of exported quantity has increased, then the value

of export has also increased. In 2010-11 and 2014-15 when growth rate of exported quantity have decreased, then its growth rate of quantity and value were declined due to declining production that year. Maximum growth rate of grapes in terms of quantity and value in the 2012-13. During the study period maximum year growth rate of value increased when its quantity increased. It means its value depend upon their quantity. By comparing 2002-03 to 2014-15, 37.32 percent and 48.91 percent decreased in exported quantity and value have observed respectively. The result of simple regression analyzed that quantity on average 8854.65 Metric Tons has been changed due to one year change of time and Value on an average 9061.63 Lakhs rupee export of Grapes has been changed due to one year change in time. These changes in Quantity of Grapes and Value can be easily understood by the help of below figure no. 5.3.

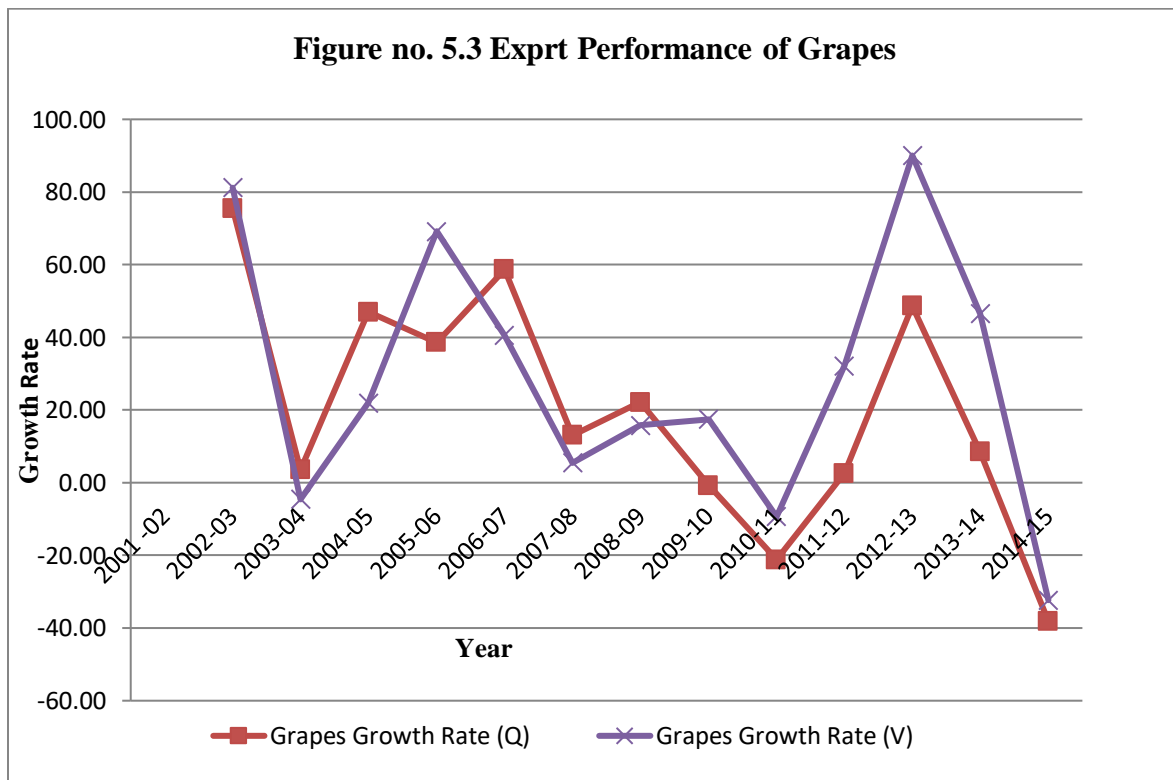


Table no. 5.4 Export Performance of Guava				
Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	-----	-----	-----	-----
2002-03	-----	-----	-----	-----
2003-04	2810.78	-----	568.01	-----
2004-05	3339.76	18.82	692.62	21.94
2005-06	5359.89	60.49	982.98	41.92
2006-07	3392.72	-36.70	772.53	-21.41
2007-08	2495.52	-26.44	417.19	-46.00
2008-09	1691.42	-32.22	304.42	-27.03
2009-10	516.27	-69.48	113.39	-62.75
2010-11	300.54	-41.79	62.34	-45.02
2011-12	1381.91	359.81	317.61	409.48
2012-13	1179.56	-14.64	350.86	10.47
2013-14	969.87	-17.78	415.42	18.40
2014-15	907.87	-6.39	371.82	-10.50
Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.				
Note- Quantity in M.T., Values in Rs- Lakhs				

Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

The largest export destination of India's Guava was United Arab Emirates (33.4%) in 2013-14. The above table 5.4 represents the export performance of Guava in terms of Quantity and value. Above table shows when its export quantity has increased then its exported value also increased. The significance changes in 2011-12 when exported quantity and value both have increased, because those year productions of Guava have increased in India. From 2012-13 to 2013-14 when its exported quantity has decreased while exported value increased because that year its prize and demand have increased in the world market. Generally Export quantity of Guava depends on its production. The result of simple regression analyzed that quantity on average -363.42 Metric Tons has been changed due to one year change of time and Value on an average - 50.73 Lakhs rupee export of Guava has been changed due to one year change in time. These changes in Quantity of Guava and Value can be easily understood by the help of below figure no. 5.4.

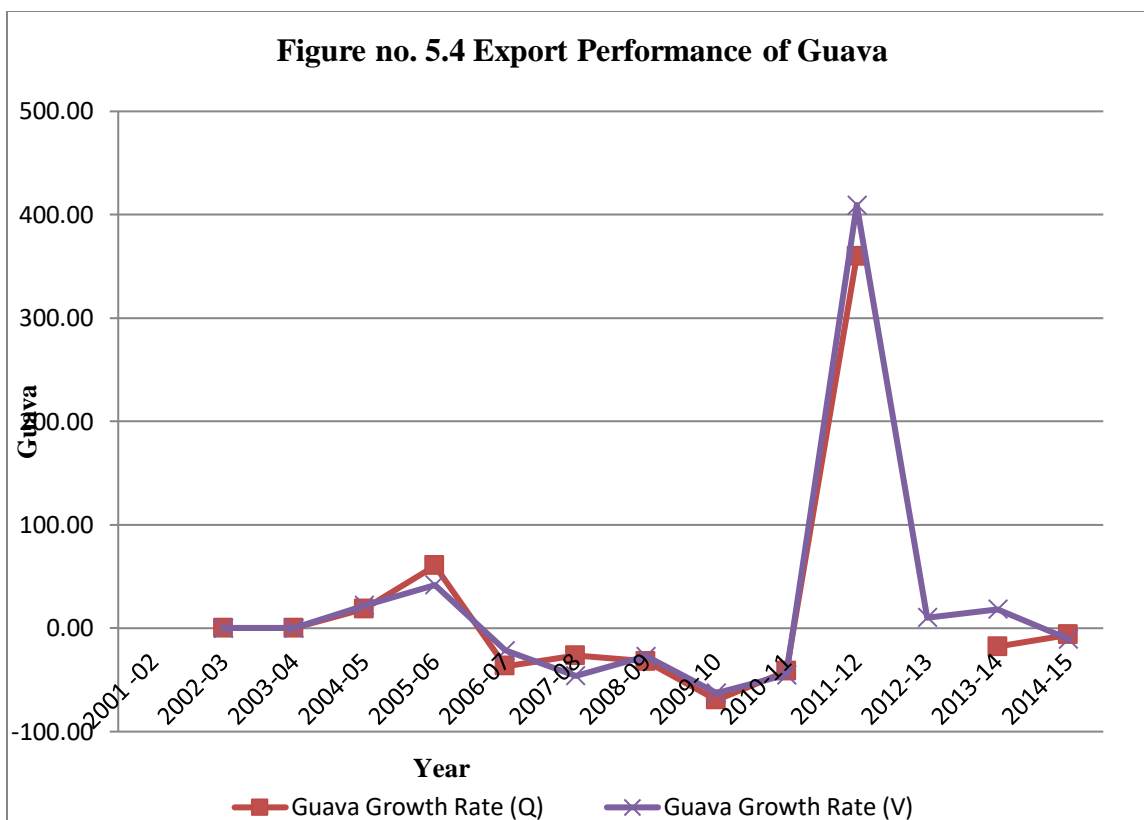


Table no. 5.5 Export Performance of Litchi

Year	Quantity	G.R.Q.	values	G.R.V.
2001 -02	28.7	-----	35.99	-----
2002-03	347.63	1111.25	100.22	64.09
2003-04	962.05	176.75	133.98	25.20
2004-05	544.98	-43.35	70.9	-88.97
2005-06	718.84	31.90	93.64	24.28
2006-07	1661.13	131.08	164.35	43.02
2007-08	161.52	-90.28	63.43	-159.10
2008-09	1546.5	857.47	155.94	59.32
2009-10	545.39	-64.73	88.91	-75.39
2010-11	1186.11	117.48	135.85	34.55
2011-12	319.94	-73.03	38.76	-250.49
2012-13	794.86	148.44	118.13	67.19
2013-14	57.48	-92.77	28.22	-318.60
2014-15	961.43	1572.63	215.18	86.89

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.
 Note- Quantity in M.T., Values in Rs- Lakhs
 Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

The largest export destination of India's Litchi was China (74.6%) in 2013-14. The above table 5.5 represents the export performance of Litchi in terms of Quantity and value. Above table shows when its export quantity has increased then its exported value also increased. The highest growth rate of litchi in terms of quantity and value in 2002-03, 2003-04, 2006-07, 2008-09, 2010-11, 2012-13 and 2014-15 because these year production of litchi have increased in India. Above table shows growth rate of export quantity have more its exported value because its prizes and demand have very low in international market, and its one biggest importer of Indian litchi that is china. Lack of prize its export quantity and value will be low. Litchi exported value depend on prize and international demand. So other export destination will be search for its increasing growth rate. The result of simple regression analyzed that quantity on average -8.80 Metric Tons has been changed due to one year change of time and Value on an average 0.84 Lakhs rupee export of Litchi has been changed due to one year change in time. These changes in Quantity of Litchi and Value can be easily understood by the help of below figure no. 5.5.

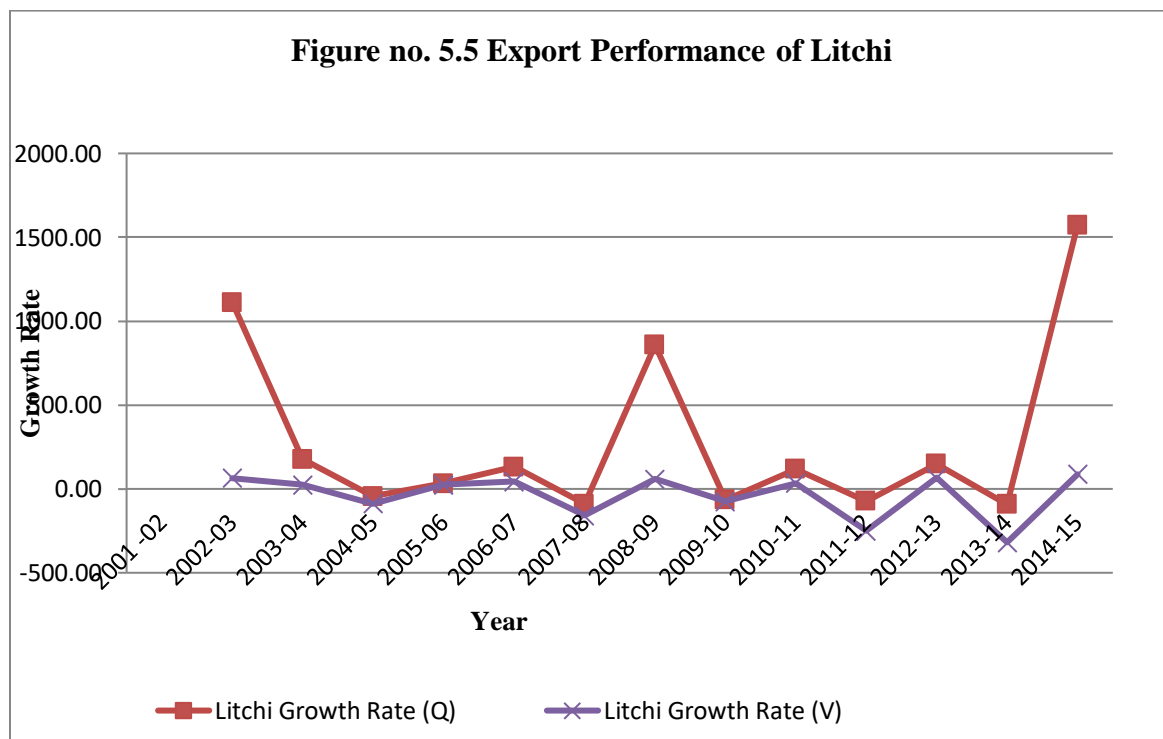


Table no.5.6 Export Performance of Mango				
Year	Quantity	G.R.Q.	Value	G.R.V.
2001 -02	44429.33	-----	8099.13	-----
2002-03	38001.93	-14.47	8418.9	3.95
2003-04	60551.32	59.34	11051.9	31.27
2004-05	53480.02	-11.68	8961.06	-18.92
2005-06	69606.6	30.15	12811.12	42.96
2006-07	79060.88	13.58	14193.95	10.79
2007-08	54350.8	-31.25	12714.76	-10.42
2008-09	83703.19	54.01	17071.25	34.26
2009-10	74460.61	-11.04	20053.98	17.47
2010-11	58863.4	-20.95	16483.6	-17.80
2011-12	63441.29	7.78	20974.3	27.24
2012-13	55585	-12.38	26471.76	26.21
2013-14	37295.61	-32.90	28542.71	7.82
2014-15	42998.33	15.29	30253.66	5.99

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.

Note- Quantity in M.T., Values in Rs- Lakhs

Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

India is the largest producer of Mango. In India it is known as fruits of king. Mango is the tropical fruits. The largest export destination of India's Mango was United Arab Emirates (60.4%), after then United Kingdom (16%) in 2013-14. the above table 5.6 represents the export performance of Mango in terms of Quantity and value. Above table shows in 2002-03 exported quantity was negative but exported value was positive. In 2004-05, 2007-08 and 2008-09 its quantity and value growth rate have negative both due to lack of production and environments causes. Further 2012-13 and 2013-14 Mango's exported quantity has declined due to its export restriction by United Kingdom. In 2014-15 its exported quantity and value both have increased due to increasing production. In the figure no. 5.6 shows many times growth rate of exported value has more than growth rate of quantity which positive indication terms of foreign exchange income. The result of simple regression analyzed that quantity on average -640.99 Metric Tons has been changed due to one year change of time and Value on an average 1785.23 Lakhs rupee export of Mango has been changed due to one year change in time. These changes in Quantity of Mango and Value can be easily understood by the help of below figure no. 5.6.

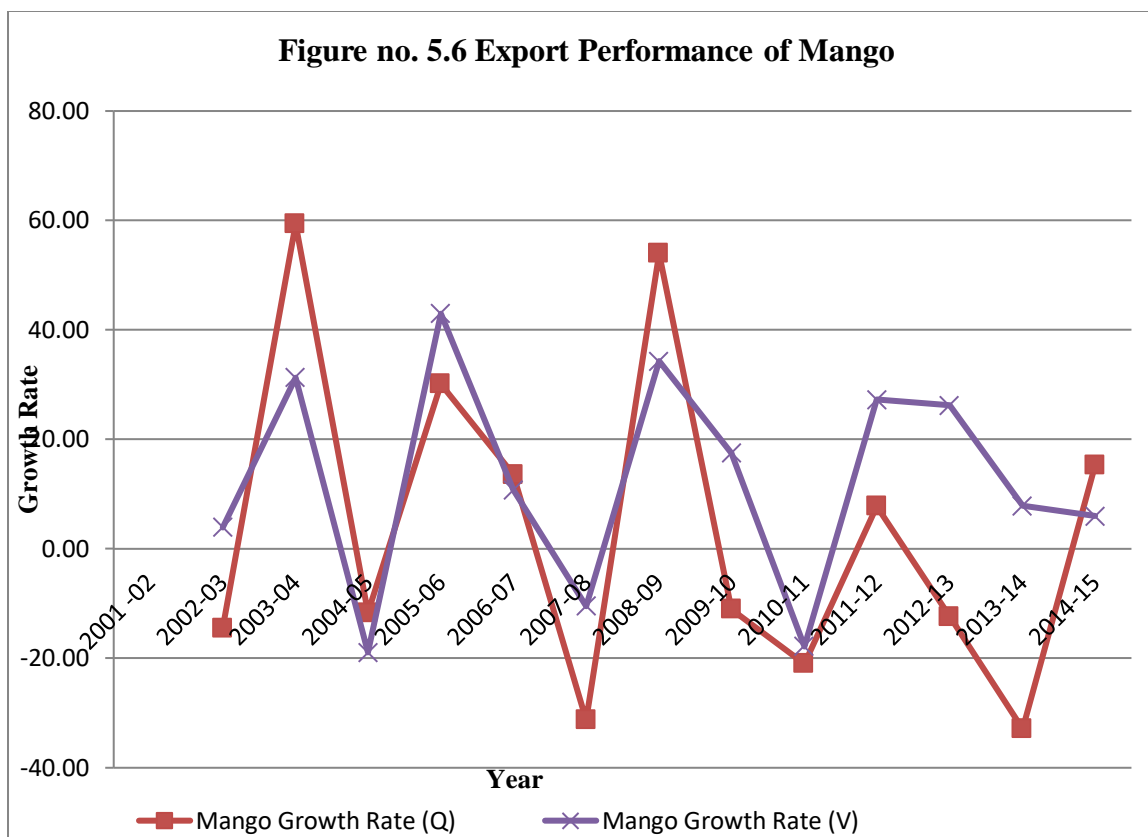


Table no.5.7 Export Performance of Monic

Year	Quantity	G.R.Q.	Value	G.R.V.
2001 -02	17.98	-----	12.33	-----
2002-03	22.1	22.91	2.63	-78.67
2003-04	14.67	-33.62	11.98	355.51
2004-05	90	513.50	32.32	169.78
2005-06	1.36	-98.49	0.25	-99.23
2006-07	56.11	4025.74	19.28	7612.00
2007-08	1122.74	1900.96	236.88	1128.63
2008-09	307.79	-72.59	77.61	-67.24
2009-10	1123.18	264.92	297.26	283.02
2010-11	2193.3	95.28	613.35	106.33
2011-12	2111.65	-3.72	649.04	5.82
2012-13	2011.64	-4.74	737.37	13.61
2013-14	2640.72	31.27	1332.19	80.67
2014-15	2739.5	3.74	1234.9	-7.30

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.
 Note- Quantity in M.T., Values in Rs- Lakhs

Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

Monic is the marginal fruits in india. The above table 5.7 represents the export performance of Monic in terms of Quantity and value. Above table shows in 2002-03

growth rate of monic value was less than its exported growth rate quantity. In 2007-08 growth rate of exported quantity and value have significantly increased due to large production. Monic exported Value have more than its exported quantity due to its foreign prize. The result of simple regression analyzed that quantity on average 262.23 Metric Tons has been changed due to one year change of time and Value on an average 109.94 Lakhs rupee export of Monic has been changed due to one year change in time. These changes in Quantity of Monic and Value can be easily understood by the help of below figure no. 5.7.

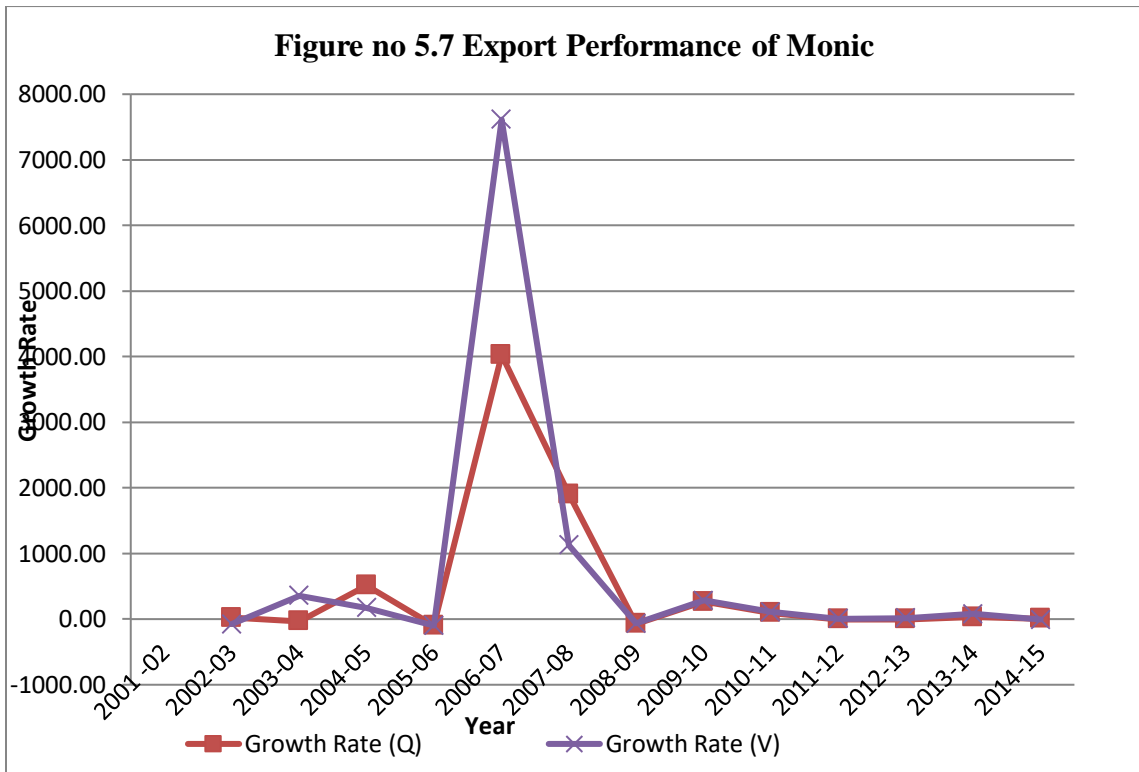


Table no.5.8 Export Performance of Papaya				
Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	1975.87	-----	286.89	-----
2002-03	3452.29	74.72	475.92	65.89
2003-04	3550.24	2.84	460.56	-3.23
2004-05	3700.96	4.25	531.2	15.34
2005-06	6434.02	73.85	665.13	25.21
2006-07	10344.42	60.78	1160.11	74.42
2007-08	10879.73	5.17	1123.18	-3.18
2008-09	13833.77	27.15	1809.59	61.11
2009-10	17573.35	27.03	1748.75	-3.36
2010-11	17176.05	-2.26	1931.48	10.45
2011-12	18671.62	8.71	2475.03	28.14
2012-13	16491.2	-11.68	3329.2	34.51
2013-14	9921.75	-39.84	3510.85	5.46
2014-15	11484.83	15.75	3826.42	8.99

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.

Note- Quantity in M.T., Values in Rs- Lakhs

Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

In 2013-14 India was the largest papaya (43.7) producing country in the world and its largest export destination were United Arab Emirates (37.8%) after then Saudi Arab. Papaya is also tropical crops.in the above table 5.8 shows many year papayas exported quantity and value have increased. In 2010-11, 2012-13 and 2013-14 its exports quantity were negative but its exports value were positive because its international demand prizes have increased. During the study period papayas export growth rate value have more than its quantity which is a positive impact for papayas producer in India. The result of simple regression analyzed that quantity on average 1034.52 Metric Tons has been changed due to one year change of time and Value on an average 297.49 Lakhs rupee export of Papaya has been changed due to one year change in time. These changes in Quantity of Papaya and Value can be easily understood by the help of below figure no. 5.8.

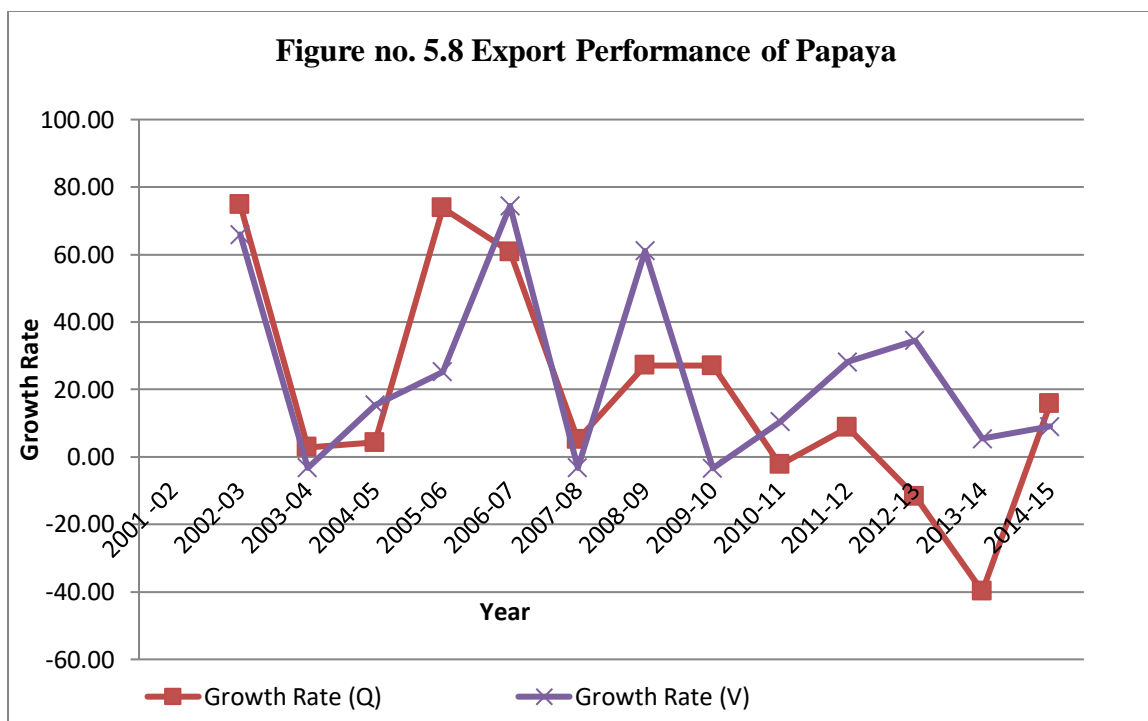


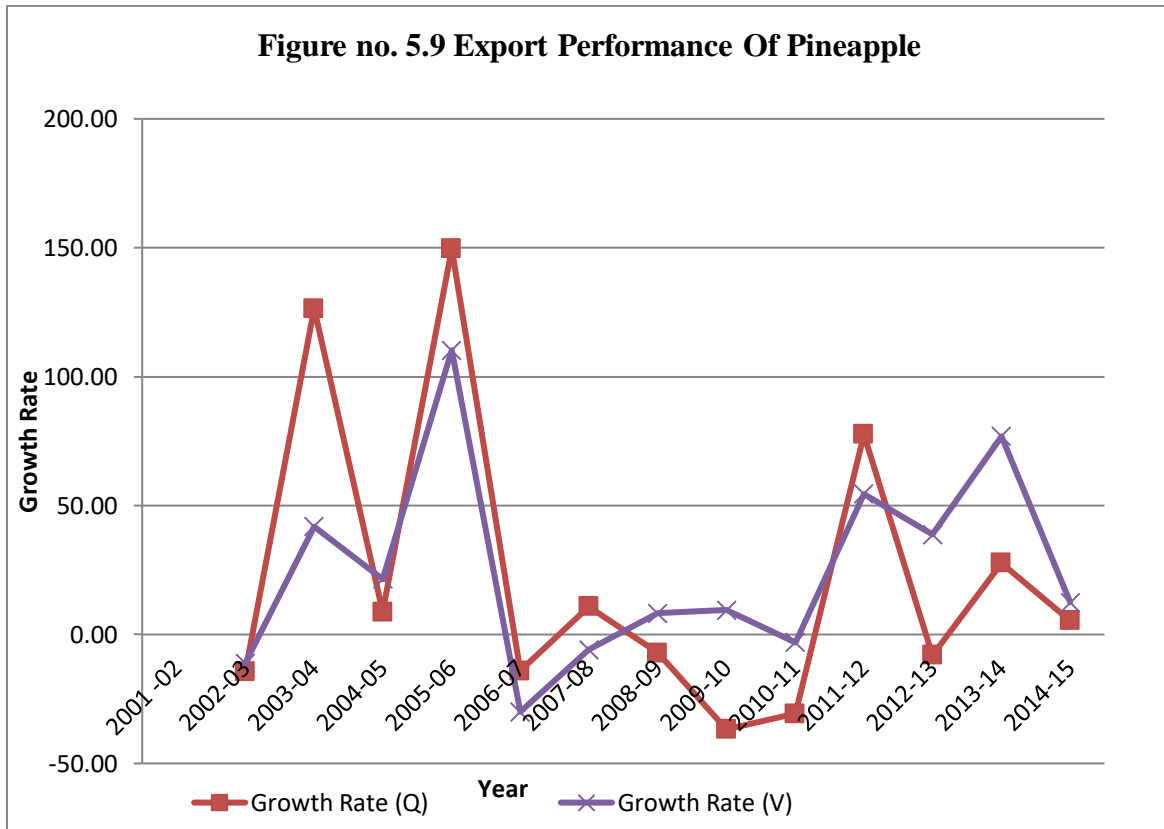
Table no.5.9 Export Performance of Pineapple

Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	836.8	-----	159.97	-----
2002-03	717.21	-14.29	142.23	-11.09
2003-04	1623.77	126.40	201.71	41.82
2004-05	1765.65	8.74	245.15	21.54
2005-06	4407.08	149.60	515.49	110.28
2006-07	3785.15	-14.11	360.96	-29.98
2007-08	4194.99	10.83	339.76	-5.87
2008-09	3893.44	-7.19	367.81	8.26
2009-10	2462.33	-36.76	402.7	9.49
2010-11	1705.99	-30.72	390.28	-3.08
2011-12	3030.66	77.65	603.08	54.52
2012-13	2787.1	-8.04	837.13	38.81
2013-14	3560.09	27.73	1480.64	76.87
2014-15	3751.51	5.38	1664.93	12.45

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.
 Note- Quantity in M.T., Values in Rs- Lakhs
 Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

In 2013-14 India was the 7.5% Pineapple produced in the total world Pineapple Production and its largest export destination was Saudi Arab (29.6%). in the above table 5.9 shows many year pineapple exported quantity and value have increased. In 2002-03, 2006-07 and 2010-11 when its exported quantity has decreased then its

exported value decreased but in 2007-08 its exported quantity has negative. The result of simple regression analyzed that quantity on average 120.62 Metric Tons has been changed due to one year change of time and Value on an average 100.45 Lakhs rupee export of Pineapple has been changed due to one year change in time. These changes in Quantity of Pineapple and Value can be easily understood by the help of below figure no. 5.9.



Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	-----	-----	-----	-----
2002-03	-----	-----	-----	-----
2003-04	10315.97	-----	2109	0.00
2004-05	14039.99	36.10	2988.71	41.71
2005-06	19652.15	39.97	5670.16	89.72
2006-07	21670.44	10.27	7957.31	40.34
2007-08	35175.17	62.32	9119.49	14.61
2008-09	34811.21	-1.03	11461.62	25.68
2009-10	33368.93	-4.14	11942.84	4.20
2010-11	18211.44	-45.42	7095.2	-40.59
2011-12	30162.27	65.62	14727.87	107.58
2012-13	36027.4	19.45	23449.63	59.22
2013-14	24504.51	-31.98	29872.09	27.39
2014-15	21029.82	-14.18	32379.86	8.40

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.
Note- Quantity in M.T., Values in Rs- Lakhs
Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

In the above table 5.10 shows many years Growth Rate of Pomegranates exported Value have more than its exported quantity. In 2010-11 pomegranates growth rate have declined in terms of exported quantity and exported value. In 2008-09, 2009-10, 2013-14 and 2014-15 growth rate of Pomegranates exported quantity have less than its exported value. The result of simple regression analyzed that quantity on average 643.67 Metric Tons has been changed due to one year change of time and Value on an average 2700.825 Lakhs rupee export of Pineapple has been changed due to one year change in time. These changes in Quantity of Pomegranate and Value can be easily understood by the help of below figure no. 5.10.

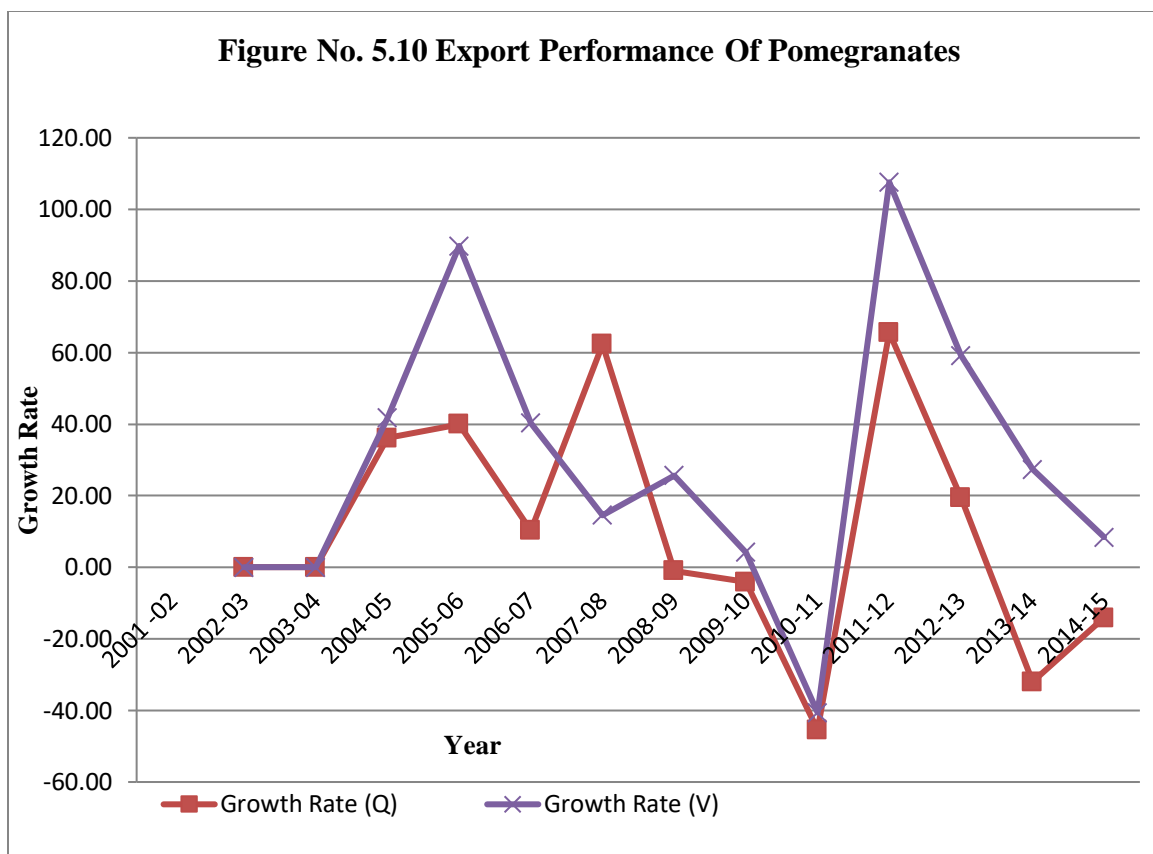


Table no.5.11 Export Performance of Sapota

Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	1149.51	-----	214.47	-----
2002-03	958.34	-16.63	183.72	-14.34
2003-04	1085.59	13.28	225.02	22.48
2004-05	951.14	-12.38	105.06	-53.31
2005-06	1180.94	24.16	224.64	113.82
2006-07	2089.53	76.94	744.31	231.33
2007-08	2150.84	2.93	503.83	-32.31
2008-09	4112.28	91.19	607.92	20.66
2009-10	4197.67	2.08	504.5	-17.01
2010-11	2080.55	-50.44	366.55	-27.34
2011-12	2693.72	29.47	428.35	16.86
2012-13	2605.94	-3.26	615	43.57
2013-14	1429.1	-45.16	771.37	25.43
2014-15	1372.09	-3.99	818.08	6.06

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.
 Note- Quantity in M.T., Values in Rs- Lakhs
 Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

In 2013-14 the largest export destination of India's Sapota have United Arab Emirates (48.9%) after then Bahrain (18.7%). In the above table 5.11 shows when growth rate of export quantity decreased then its growth of value also decreased. From 2012-13 to 2014-15 its export quantity growth rate have negative but that year its export value growth rate have positive its increasing world market prizes. In 2006-07 its export quantity and export value both are increased that year its production was also increased in India. The result of simple regression analyzed that quantity on average 95.53 Metric Tons has been changed due to one year change of time and Value on an average 46.34 Lakhs rupee export of Sapota has been changed due to one year change in time. These changes in Quantity of Sapota and Value can be easily understood by the help of below figure no. 5.11.

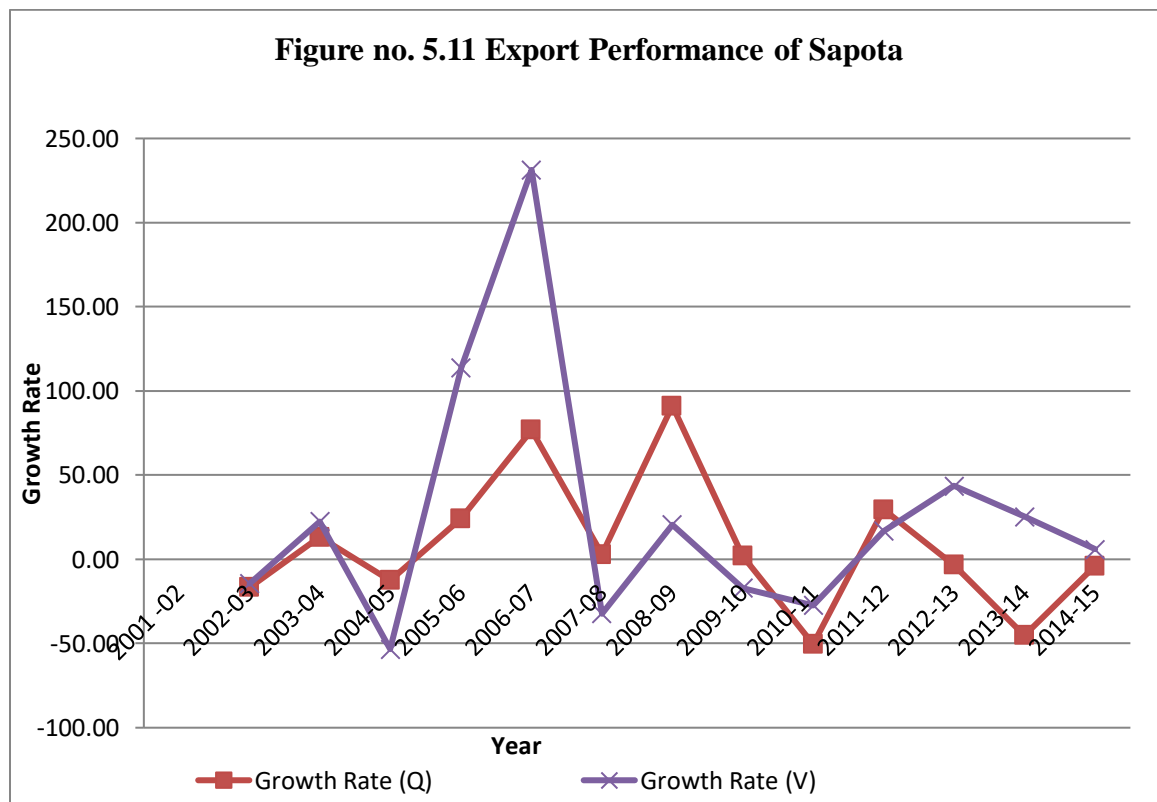


Table no.5.12 Export Performance of Watermelons				
Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	3343.81	-----	244.5	-----
2002-03	16557.56	395.17	257.18	5.19
2003-04	3370.97	-79.64	201.18	-21.77
2004-05	5485.66	62.73	350.21	74.08
2005-06	7162.38	30.57	453.95	29.62
2006-07	7929.38	10.71	667.22	46.98
2007-08	6618.91	-16.53	508.13	-23.84
2008-09	9773.56	47.66	903.44	77.80
2009-10	11854.91	21.30	1445.05	59.95
2010-11	11289.22	-4.77	1448.97	0.27
2011-12	17760.28	57.32	2166.5	49.52
2012-13	18724.46	5.43	2242.33	3.50
2013-14	14305.84	-23.60	2947.23	31.44
2014-15	15233.88	6.49	3691.43	25.25

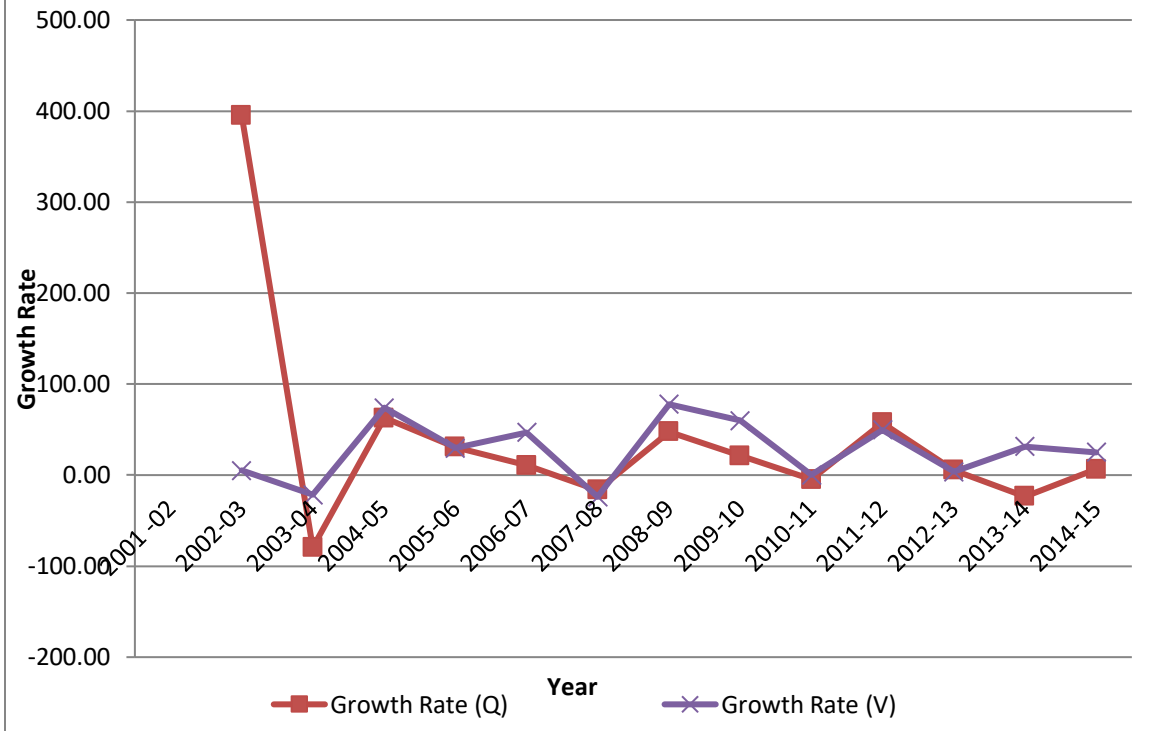
Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.

Note- Quantity in M.T., Values in Rs- Lakhs

Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of value

Watermelon is marginal fruits exporting country in world, basically its production depend upon climate and proper irrigation. In the above table 5.12 shows in 2003-04 its export quantity and export value have significantly increased due large production. Above table shows when export quantity increased then its export value have increased. But 2010-11 and 2013-14 watermelon quantity growth rate was less than its value. The result of simple regression analyzed that quantity on average 788.11 Metric Tons has been changed due to one year change of time and Value on an average 272.21 Lakhs rupee export of Watermelon has been changed due to one year change in time. These changes in Quantity of Watermelon and Value can be easily understood by the help of below figure no. 5.12.

Figure no.5.12 Export Performance of Watermelons



5.3 Export performance of Major Fresh Vegetables from India

Here explained the export performance of major fresh vegetables like Cabbage, Cauliflower, Green Chilly, Onion, Peas, Potato, Sweet Potato and Tomato in India. Using by Percent and simple regression method.

Table no. 5.13 Export Performance of Cabbage				
Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	6.77	-----	1.38	-----
2002-03	3.5	-48.30	0.57	-58.70
2003-04	288.72	8149.14	24.32	4166.67
2004-05	99.48	-65.54	10.59	-56.46
2005-06	60.68	-39.00	14.5	36.92
2006-07	302.65	398.76	21.05	45.17
2007-08	301.17	-0.49	26.07	23.85
2008-09	1789.23	494.09	133.94	413.77
2009-10	847.89	-52.61	74.78	-44.17
2010-11	322.77	-61.93	42.16	-43.62
2011-12	537.63	66.57	75.99	80.24
2012-13	573	6.58	40.75	-46.37
2013-14	375.53	-34.46	55.82	36.98
2014-15	295.82	-21.23	71.46	28.02

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.
 Note- Quantity in M.T., Values in Rs- Lakhs
 Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

The largest export destination of India's Cabbage was Pakistan (59.93%) after then Nepal (23.64%) and India was the second largest producer of Cabbage (12.8%) in the total world Cabbage production in 2013-14. The above table 5.13 represents the export performance of Cabbage in terms of Quantity and Value. Maximum time it has observed that if growth rate of exported quantity has increased, then the value of export has also increased but in 2002-03 when growth rate of exported quantity and value both have negative due lack of production this year. In 2004-05 its exported quantity and value have significantly increased due to its increasing production in India. Remaining year its exported quantity growth rate and value growth rate have similar. The result of simple regression analyzed that quantity on average 33.51 Metric Tons has been changed due to one year change of time and Value on an average 5.37 Lakhs rupee export of Cabbage has been changed due to one year change in time. These changes in Quantity of Cabbage and Value can be easily understood by the help of below figure no. 5.13.

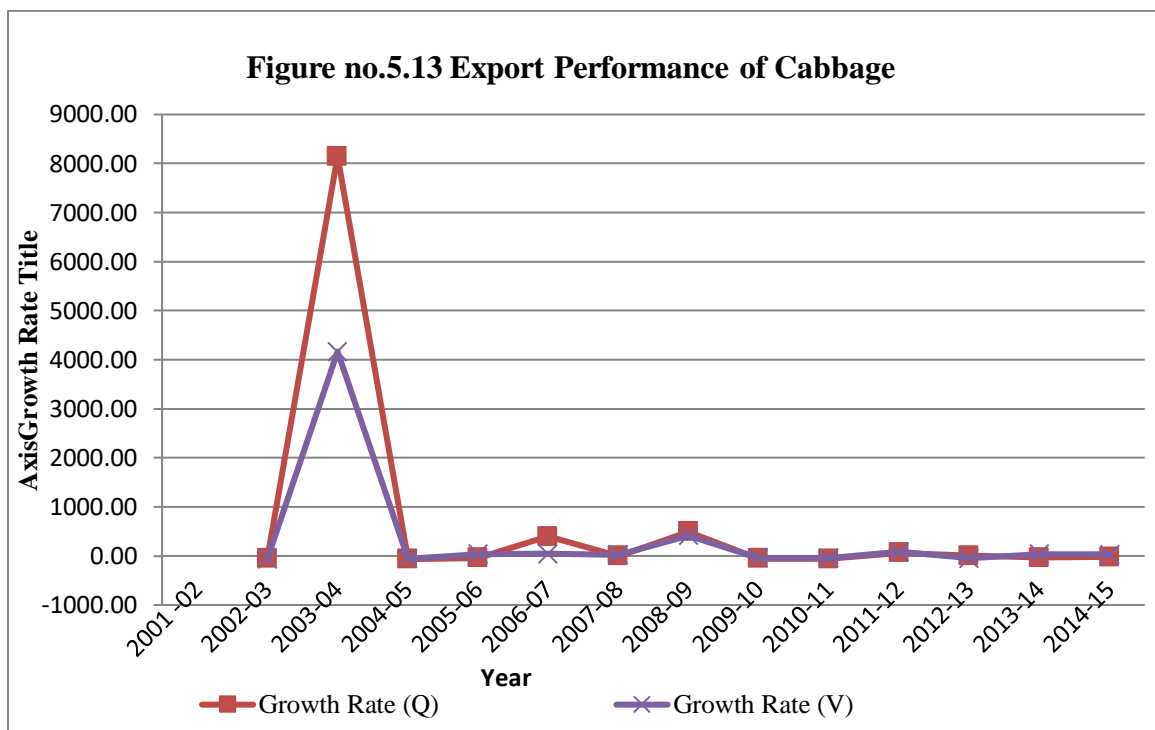


Table no.5.14 Export Performance of Cauliflower

Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	-----	-----	-----	-----
2002-03	-----	-----	-----	-----
2003-04	54.07	-----	9.41	-----
2004-05	95.29	76.23	16.85	79.06
2005-06	105.15	10.35	5.83	-65.40
2006-07	44.66	-57.53	3.59	-38.42
2007-08	70.85	58.64	2.18	-39.28
2008-09	284.6	301.69	15.91	629.82
2009-10	1662.57	484.18	90.83	470.90
2010-11	880.31	-47.05	33.43	-63.19
2011-12	763.34	-13.29	74.58	123.09
2012-13	356.97	-53.24	25.02	-66.45
2013-14	51.87	-85.47	18.1	-27.66
2014-15	61.9	19.34	22.98	26.96

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.
Note- Quantity in M.T., Values in Rs- Lakhs
Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

The largest export destination of India's Cauliflower was Maldives (67.09%) and India was the first largest producer of Cauliflower (37.5%) in the total world Cauliflower production in 2013-14. The above table 5.14 represents the export performance of Cauliflower in terms of Quantity and Value. Maximum time it has observed that if growth rate of exported quantity has increased, then the value of export has also increased but in 2006-07, 2010-11, 2012-13 and 2013-14 when growth rate of exported quantity and value both have decreasing. The significant change from 2008-09 to 2009-10 when its exported quantity and value increased. The result of simple regression analyzed that quantity on average 23.06 Metric Tons has been changed due to one year change of time and Value on an average 2.78 Lakhs rupee export of Cauliflower has been changed due to one year change in time. These changes in Quantity of Cauliflower and Value can be easily understood by the help of below figure no. 5.14.

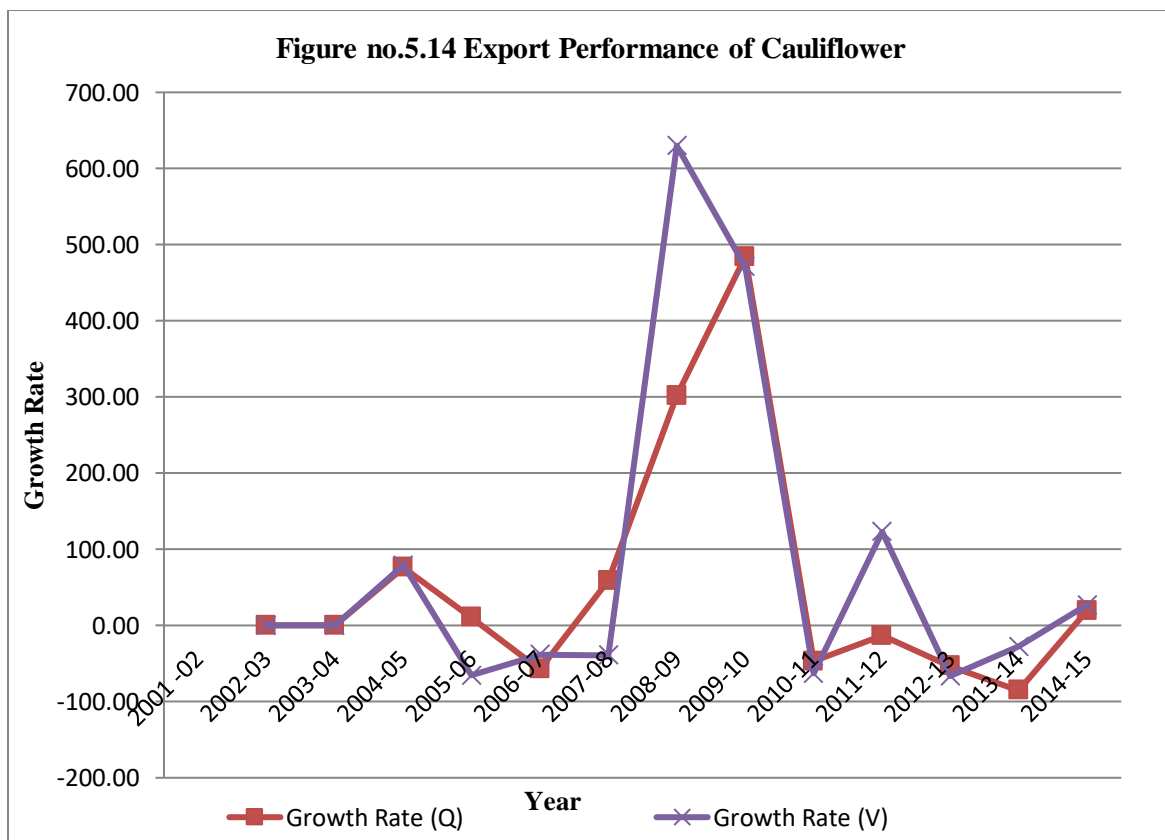


Table no.5.15 Export Performance of Green Chilly				
Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	1194.73	-----	285.95	-----
2002-03	1384.37	15.87	284.04	-0.67
2003-04	3838.33	177.26	898.99	216.50
2004-05	7952.23	107.18	909.21	1.14
2005-06	8764.7	10.22	1482.59	63.06
2006-07	18187.8	107.51	2216.38	49.49
2007-08	26894.85	47.87	4372.16	97.27
2008-09	30198.1	12.28	4832.06	10.52
2009-10	30654.66	1.51	6287.07	30.11
2010-11	28441.65	-7.22	6122.26	-2.62
2011-12	46702.96	64.21	9824.2	60.47
2012-13	35991.96	-22.93	9154.14	-6.82
2013-14	46540.17	29.31	14086.95	53.89
2014-15	32138.18	-30.95	13613.6	-3.36

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.
Note- Quantity in M.T., Values in Rs- Lakhs
Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

The above table 5.15 represents the export performance of Green chilly in terms of Quantity and Value. Maximum time it has observed that if growth rate of exported quantity has increased, then the value of export has also increased but in 2010-11,2012-13 and 2014-15 when growth rate of exported quantity and value both have decreasing. It means growth rate of export value depend on exported quantity when quantity will increase then its exported value also increased. During the study growth rate of value have more than its growth rate of quantity. The result of simple regression analyzed that quantity on average 3561.94 Metric Tons has been changed due to one year change of time and Value on an average 1173.89 Lakhs rupee export of Green chilly has been changed due to one year change in time. These changes in Quantity of Green chilly and Value can be easily understood by the help of below figure no. 5.1

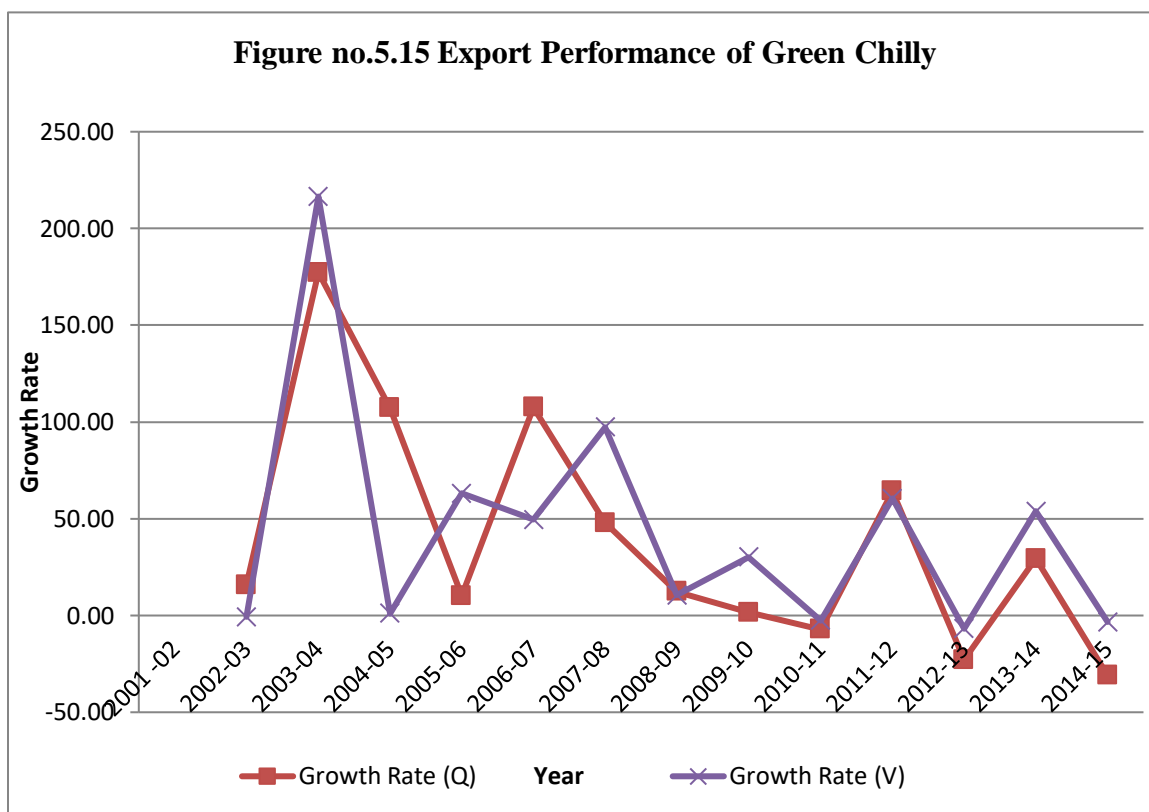


Table no.5.16.Export Performance of Onion

Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	441849.6	-----	33242.54	-----
2002-03	588449.74	33.18	36161.92	8.78
2003-04	859938.75	46.14	71586.73	97.96
2004-05	870216.81	1.20	64411.9	-10.02
2005-06	960507.31	10.38	70815.88	9.94
2006-07	1378373.75	43.50	116330.57	64.27
2007-08	1008606.44	-26.83	103577.89	-10.96
2008-09	1670186.25	65.59	182752.21	76.44
2009-10	1676562.25	0.38	231942.98	26.92
2010-11	1182324.25	-29.48	177928.62	-23.29
2011-12	1309924.75	10.79	172299.8	-3.16
2012-13	1666872.63	27.25	196662.66	14.14
2013-14	1402606	-15.85	317728.82	61.56
2014-15	1238645.75	-11.69	230158.39	-27.56

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.
Note- Quantity in M.T., Values in Rs- Lakhs
Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

The largest export destination of India's Onion were Bangladesh(28.1%) after then Malaysia(20.2%) and India was the Second largest producer of Onion (22.6%) in the total world Onion production in 2013-14. The above table no.516 represents the export performance of Onion in terms of Quantity and Value. Maximum time it has observed that if growth rate of exported quantity has increased, then the value of export has also increased. But in 2007-08, 2010-11, 2012-13 and 2014-15 growth rate of onion exported quantity and value have decreased due domestic demand and china have increased their onion export in global market in low prize than India. In above table growth rate of onion value is more than its quantity. The result of simple regression analyzed that quantity on average 61127.72 Metric Tons has been changed due to one year change of time and Value on an average 19119.26 Lakhs rupee export of Onion has been changed due to one year change in time. These changes in Quantity of Onion and Value can be easily understood by the help of below figure no. 5.16.

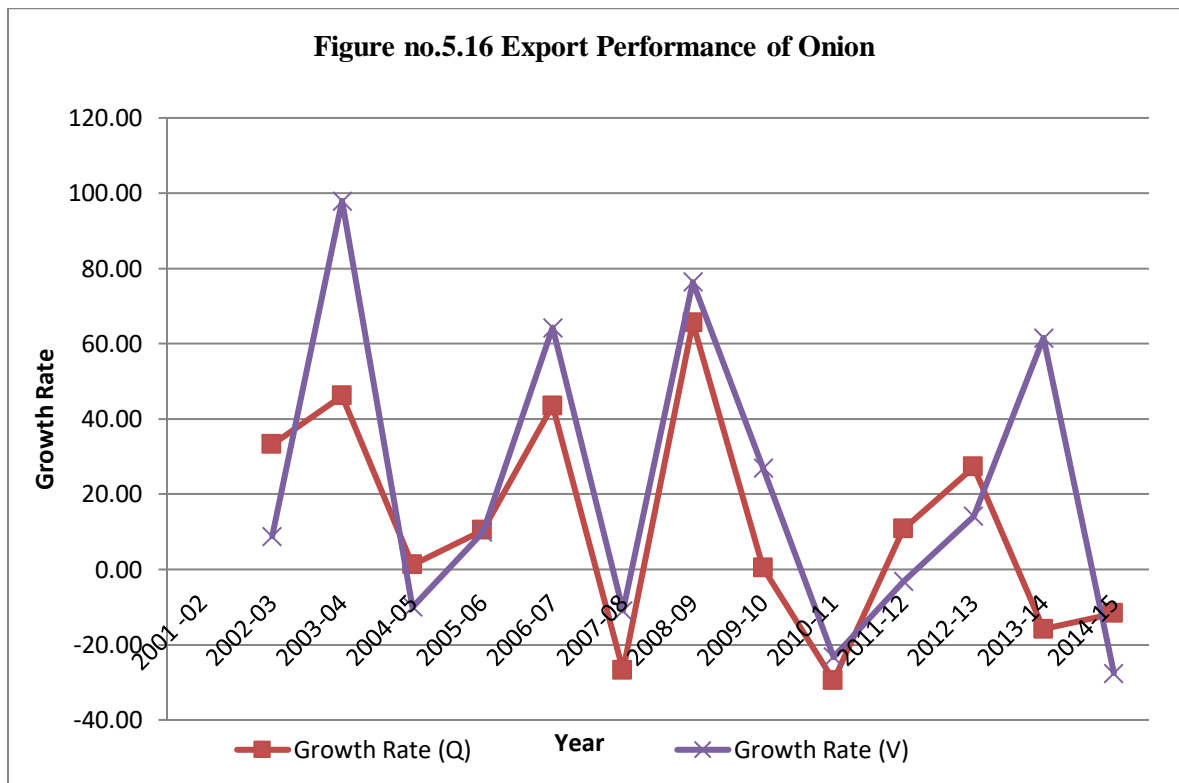


Table no.5.17 Export Performance of Peas				
Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	533.43	-----	155.56	-----
2002-03	2564.07	380.68	765.81	392.29
2003-04	2781.31	8.47	852.82	11.36
2004-05	2132.72	-23.32	443.07	-48.05
2005-06	1109.15	-47.99	281.49	-36.47
2006-07	1183.51	6.70	273.03	-3.01
2007-08	814.64	-31.17	270.85	-0.80
2008-09	2519.41	209.27	795.45	193.69
2009-10	1270.68	-49.56	353.7	-55.53
2010-11	1034.4	-18.59	263.56	-25.48
2011-12	1980.94	91.51	352.78	33.85
2012-13	3146.34	58.83	764.84	116.80
2013-14	8482.56	169.60	2012.45	163.12
2014-15	19365.88	128.30	4655.94	131.36

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.

Note- Quantity in M.T., Values in Rs- Lakhs

Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

The largest export destination of India's Peas was Pakistan (67%) in 2013-14. The above table 5.17 represents the export performance of Peas in terms of Quantity and Value. Maximum time it has observed that if growth rate of exported quantity has increased, then the value of export has also increased. But in 2004-05, 2005-06, 2007-08, 2009-10 and 2011-12 growth rate of exported Quantity and value have decreased due to its high domestic demand. In 2008-09 growths of quantity and value have significantly increased because that year production of peas in India has highly increased. The result of simple regression analyzed that quantity on average 748.04 Metric Tons has been changed due to one year change of time and Value on an average 168.70 Lakhs rupee export of peas has been changed due to one year change in time. These changes in Quantity of peas and Value can be easily understood by the help of below figure no. 5.17.

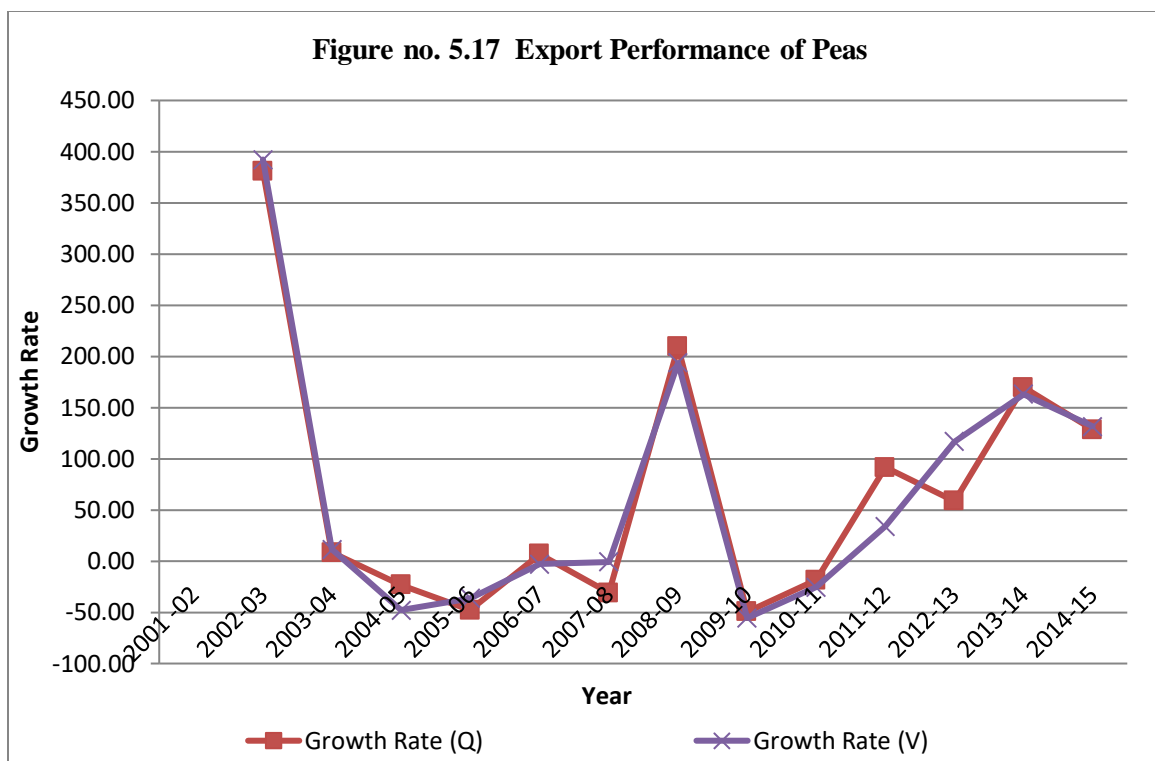
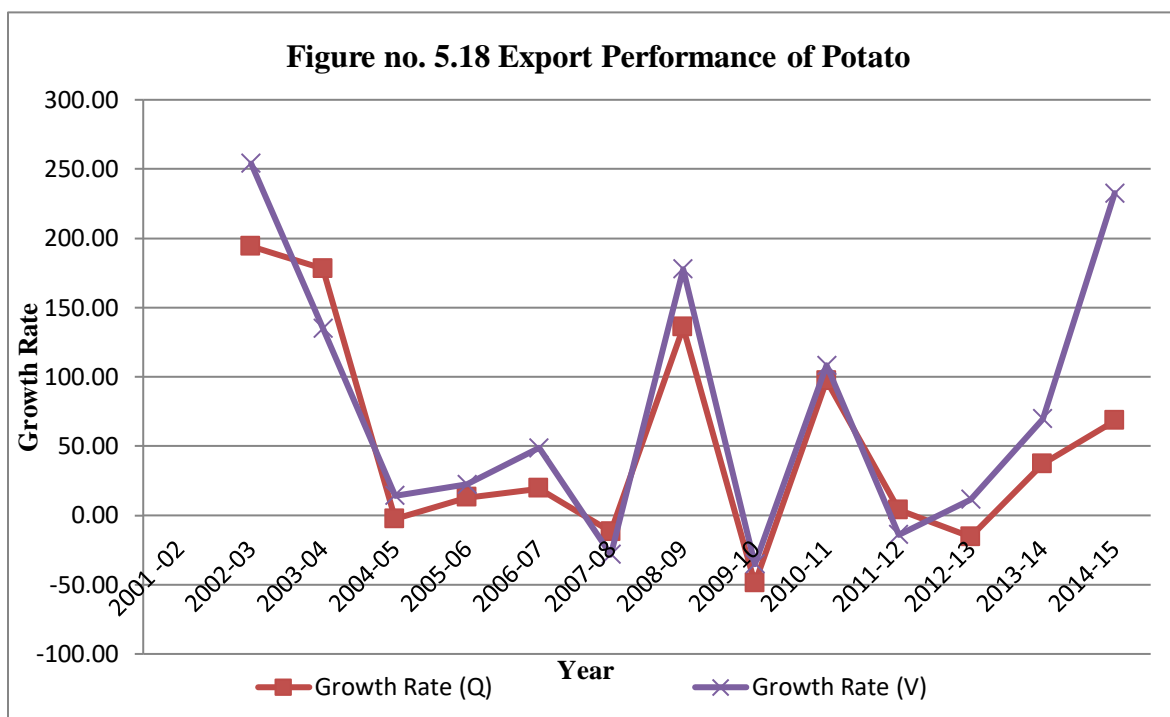


Table no. 5.18 Export Performance of Potato

Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	8282.33	-----	334.06	-----
2002-03	24365.13	194.18	1182.36	253.94
2003-04	67739.88	178.02	2778.65	135.01
2004-05	65996.13	-2.57	3175.47	14.28
2005-06	74534.41	12.94	3882.58	22.27
2006-07	89024.52	19.44	5770.1	48.62
2007-08	78450.77	-11.88	4142.68	-28.20
2008-09	184960.98	135.77	11503.72	177.69
2009-10	94322.39	-49.00	7453.53	-35.21
2010-11	185953.3	97.15	15520.2	108.23
2011-12	193085.84	3.84	13345.32	-14.01
2012-13	163186.38	-15.49	14871.93	11.44
2013-14	223712.47	37.09	25236.92	69.69
2014-15	376305.09	68.21	83930.13	232.57

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.
 Note- Quantity in M.T., Values in Rs- Lakhs
 Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values



The largest export destination of India's Potato was Nepal (42%) and India was the Second largest producer of Potato (11.4%) in the total world Potato production in 2013-14. The above table 5.18 represents the export performance of Potato in terms of Quantity and Value. Maximum time it has observed that if growth rate of exported quantity has increased, then the value of export has also increased. In 2004-05 the growth of exported quantity was declined but its exported value has increased. In 2007-08, 2009-10 growth rates of exported quantity and value have declined due to domestic demand. From 2011-12 growth rate of Potato exported value are increasing which will good impact of its domestic prize because its domestic prize are very low. The result of simple regression analyzed that quantity on average 21193.93 Metric Tons has been changed due to one year change of time and Value on an average 3883.31 Lakhs rupee export of Potato has been changed due to one year change in time. These changes in Quantity of Potato and Value can be easily understood by the help of above figure no. 5.18.

Table no.5.19 Export Performance of Sweet Potato				
Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	118.96	-----	13.23	-----
2002-03	85.92	-27.77	10.12	-23.51
2003-04	195.59	127.64	15.8	56.13
2004-05	330.13	68.79	24.4	54.43
2005-06	570.97	72.95	52.25	114.14
2006-07	532.59	-6.72	47.98	-8.17
2007-08	346.8	-34.88	35.48	-26.05
2008-09	879.15	153.50	81.19	128.83
2009-10	534.18	-39.24	56.11	-30.89
2010-11	608.94	14.00	74.12	32.10
2011-12	1010.4	65.93	131.14	76.93
2012-13	632.49	-37.40	104.21	-20.54
2013-14	501.73	-20.67	109.08	4.67
2014-15	427.03	-14.89	125.8	15.33

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.

Note- Quantity in M.T., Values in Rs- Lakhs

Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

The largest export destination of India's Sweet Potato was United Arab Emirates (71.44%) in 2013-14. Sweet Potato has marginal export vegetables. The above table 5.19 represents the export performance of Sweet Potato in terms of Quantity and Value. In 2002-03, 2006-07, 2007-08, 2009-10 and 2012-13 growth rate of exported quantity and growth rate of exported value both have negative due to low production in India. In 2008-09 its growth quantity and value increased due to large production in India. it is beneficial crops for India. The result of simple regression analyzed that quantity on average 35.41 Metric Tons has been changed due to one year change of time and Value on an average 9.83 Lakhs rupee export of Sweet Potato has been changed due to one year change in time. These changes in Quantity of Sweet Potato and Value can be easily understood by the help of below figure no. 5.19.

Figure no. 5.19 Export Performance of Sweet Potato

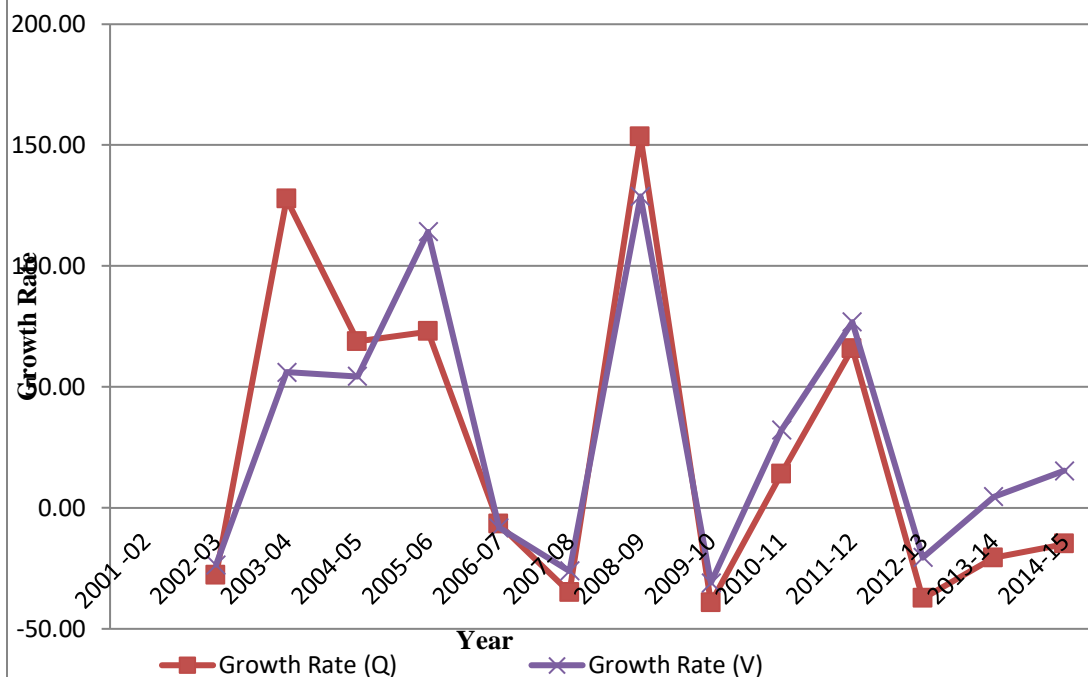


Table no.5.20 Export Performance of Tomato

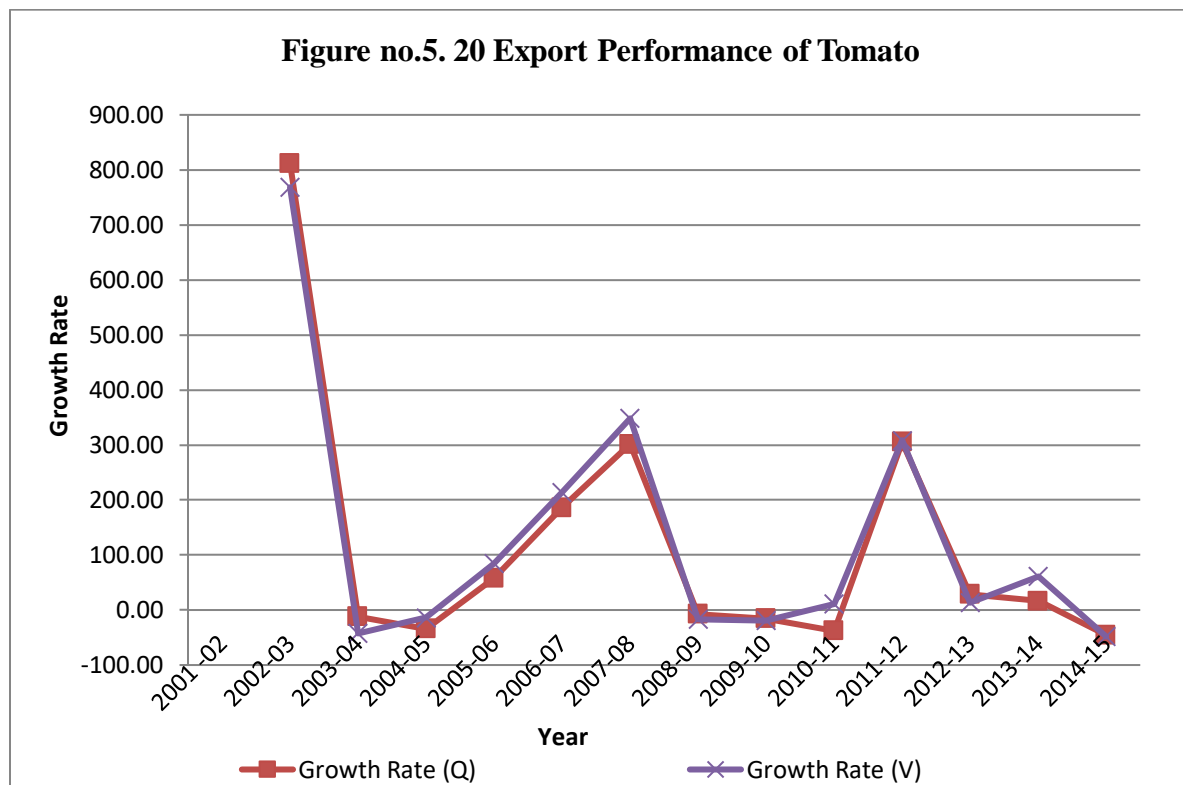
Year	Quantity	G.R.Q.	Values	G.R.V.
2001 -02	1412.59	-----	136.47	-----
2002-03	12886.12	812.23	1185.05	768.36
2003-04	11328.02	-12.09	685.42	-42.16
2004-05	7446.1	-34.27	589.38	-14.01
2005-06	11743.4	57.71	1086.07	84.27
2006-07	33592.92	186.06	3410.2	213.99
2007-08	134845.16	301.41	15290.78	348.38
2008-09	124617.23	-7.58	12766.2	-16.51
2009-10	105556.95	-15.30	10324.28	-19.13
2010-11	65872.27	-37.60	11509.98	11.48
2011-12	266986.38	305.31	47030.52	308.61
2012-13	343691.56	28.73	53305.12	13.34
2013-14	399837.81	16.34	86092.53	61.51
2014-15	217999.33	-45.48	44461.33	-48.36

Source- Department of Commerce, Export-Import Data Bank, GOI, APEDA.

Note- Quantity in M.T., Values in Rs- Lakhs

Note-G.R.Q. = Growth rate of quantity, G.R.V. = Growth rate of values

The largest export destination of India's Tomato was Pakistan (85.87%) and India was the Second largest producer of Tomato (11.5%) in the total world Tomato production in 2013-14. The above table 5.20 represents the export performance of Tomato in terms of Quantity and Value. Maximum time it has observed that if growth rate of exported quantity has decreased, then the value of export has also decreased. Because quantity has less exported from India due to high domestic demand. Tomato's export growth quantity has similar its growth Value. The result of simple regression analyzed that quantity on average 29226.43 Metric Tons has been changed due to one year change of time and Value on an average 5750.67 Lakhs rupee export of Tomato has been changed due to one year change in time. These changes in Quantity of Tomato and



5.4 Export Competitiveness of Major fresh Fruits and vegetables from India.

The third objective of the study is to access the export competitiveness of major fresh fruits and vegetables by using the Balassa (1965) index. The results of this objective are showing by the following table no.6.1 and table no.6.2 respectively RCA value of fresh fruits and vegetables.

Table no. 5.21 Revealed Comparative Advantage of Fresh Fruits									
Year	Apple	Banana	Grapes	Guava & Mango	Monic	Orange	Papaya	Pine apple	Water melon
2001	0.02	0.11	0.66	5.29	0.00	0.45	0.81	0.09	0.08
2002	0.25	0.08	0.88	5.32	0.01	0.33	0.79	0.06	0.19
2003	0.07	0.06	0.88	15.39	0.01	0.57	0.86	0.05	0.11
2004	0.22	0.07	0.00	17.80	0.02	0.39	0.70	0.07	0.12
2005	0.20	0.08	1.04	16.85	0.00	0.28	0.82	0.08	0.14
2006	0.17	0.07	1.49	18.99	0.01	0.23	0.98	0.09	0.13
2007	0.13	0.07	1.48	15.65	0.04	0.20	1.69	0.05	0.15
2008	0.17	0.12	1.19	17.76	0.04	0.11	1.75	0.05	0.13
2009	0.09	0.19	1.12	12.62	0.02	0.09	1.34	0.03	0.15
2010	0.14	0.21	0.90	12.31	0.07	0.08	1.37	0.04	0.17
2011	0.12	0.11	0.84	8.05	0.06	0.20	1.53	0.05	0.20
2012	0.09	0.49	1.16	6.47	0.04	0.18	1.81	0.05	0.22
2013	0.08	0.91	1.74	5.97	0.06	0.11	1.57	0.06	0.25
2014	0.04	1.57	1.66	5.41	0.07	0.07	1.38	0.09	0.22
2015	0.06	6.63	1.00	5.31	0.05	0.09	1.90	0.09	0.32
Source: International Trade Statistics 2001-2015 and self-calculations									
Note: Bold Values of RCA shows the RCA>1									

Table no. 5.21 Shows the Ratio of Revealed Comparative Advantage of Fresh Fruits in India. Shows the Ratio of Revealed Comparative Advantage of Fresh Fruits in India. It means that commodities have comparative advantage in the export from India. If a commodity has export competitiveness, it means the share of India's export of that particular commodity is increasing in the world's total export. Guava and Mango have high RCA among all the major fruits that India produces and exports from 2001 to 2015 it means that the share of Guava and Mango are increasing in the world's total export While RCA ratio for grapes is greater than one from 2005 to 2009 and 2012 to 2015 it

means Grapes has high competitiveness in the world market in the related years. RCA ratio for Papaya is greater than one from 2007 to 2015 while RCA ratio for Apple, Banana, Monic, Orange, Pineapple and Watermelons are less than one it means India has no competitive advantage in these crops in the world market. Guava and Mango are more export competitive in the fruits group because its export share are more than other exported fruit and Guava & Mango and Papaya are tropical crops. So these fruits competitiveness have high than other fruits because India is richer tropical climate. But conditions of Papaya and grapes fruits are low due to its lack of production and lower export share.

Table no. 5.22 Revealed Comparative Advantage of Fresh Vegetables							
Year	Cabbage	Cauliflower	Onion	Peas	Potatoes	Sweet potatoes	Tomatoes
2001	0.01	0.00	9.27	0.01	0.13	0.11	0.01
2002	0.00	0.00	8.94	0.07	0.12	0.06	0.09
2003	0.02	0.00	14.05	0.06	0.56	0.08	0.03
2004	0.04	0.00	10.46	0.70	0.42	0.03	0.04
2005	0.04	0.00	10.07	0.55	0.60	0.19	0.02
2006	0.02	0.00	13.50	0.18	0.48	0.09	0.14
2007	0.03	0.00	10.04	0.10	0.47	0.09	0.29
2008	0.03	0.00	15.07	0.54	0.88	0.08	0.43
2009	0.03	0.01	14.00	0.23	0.40	0.08	0.30
2010	0.07	0.01	8.14	0.44	0.65	0.07	0.21
2011	0.11	0.01	0.71	0.78	0.61	0.03	0.61
2012	0.09	0.00	7.35	0.54	0.45	0.06	0.42
2013	0.07	0.00	8.75	1.00	0.52	0.05	0.45
2014	0.07	0.00	6.49	1.50	2.04	0.04	0.28
2015	0.06	0.01	7.81	0.50	1.30	0.04	0.49
Source: International Trade Statistics 2001-2015 and self-calculations							
Note: Bold Values of RCA shows the RCA>1							

In the Table no 5.22 Shows the Ratio of Revealed Comparative Advantage of Fresh Vegetables in India. Among all the Major Fresh Vegetables that India produces and export the Revealed Comparative Advantage ratio is above one for Onion from 2001 to 2010 but in the 2011 the RCA Ratio of Onion is 0.71. It means the share of Onion has

decline since 2011 in the world's total export, but further the RCA Ratio of Onion is increasing from 2012 to 2015. The highest RCA Ratio of Onion at 2008. Further its RCA Ratio has ups and down from India. While RCA ratio for Peas is greater than one from 2013 to 2014. Remaining year the competitiveness of Peas has less than one. RCA ratio for Potato is greater than one from 2014 to 2015 that shows the competitiveness of Potato has only 2014 to 2015 in the world market. RCA ratio for Cabbage, Cauliflower, Sweet potatoes and Tomatoes are less than one it means India has no competitive advantage in these crops in the world market. Thus for India Onion is more export competitive in the Vegetables group during the study period. Because India is the second largest producer of Onion in the world. India can export competitiveness in peas and Tomato for future but its domestic demand are high. So peas and Tomato should promote their export share in the world export share.