

ECONOMIC ANALYSIS OF MARKETING AND EXPORT OF GRAPES FROM MAHARASHTRA

B.J DESHMUKH, NAVADKAR D.S, SHINDE H.R, D.B. YADAV

Abstract: Grape occupies a prime place in the Indian economy, occupies ninth position in the fruit crops grown with 118.7 thousand hectares area and production of 2587.66 thousand metric tons during 2012-13. Grape is one of the important fruit crop in India. Area lead growth has contributed to grape output expansion. India has stable export market for the grapes. Maharashtra is leading state in both area and production specially exports quality grapes. Production, disposal pattern, marketing cost for export and domestic, price spread in domestic and trends in arrivals and prices of grapes in major markets were studied.

The primary data related to production and marketing aspects were collected by specially designed questionnaire from the Sangli district. The present study examined the trends in arrivals and prices, the impact of lagged year arrivals or prices on current year arrivals and prices, nature and relationship between arrivals and prices of grapes over the period of 12 year from 2001 to 2013 in Agricultural Produce Market Committee, Mumbai, Nashik, Nagpur, Pune and Sangli. Major marketing channels for export and domestic were 1. Producer- Private exporter- suppliers of supper market – Retail shop-consumer 2. Producer – Co-operative society – MAHAGRAPE- suppliers of supper market – Retail shop-consumer 3. Producer- Commission Agent /Wholesaler – Retailer- Consumer.4.Producer- Fruit trader - Wholesaler – Retailer- Consumer.

Out of the total marketed produce more than 63per cent of the produce was marked for export and rest were for domestic and kept for raisin purpose. Private trader contributes 58 per cent share in the total marketed quantity from the farm level. The average price realized were `4938 and `1938 per quintal for export and domestic markets respectively. Higher marketing efficiency observed in Sangli through channel –III. Results of the price function showed positive and significant influence on lagged prices of the grapes in that markets. Major markets showed significant growth rates in prices. High cost of packing, absence of storage facility, high commission charges, high transportation chargers, and price fluctuation were the major problems faced by the growers. Results of the study will helpful for the farmers and exporters.

Keywords: Marketing channels, price spread, marketing efficiency, price function, arrival and price trends.

Introduction: India is the largest producer of fruits after China, with production of 74.87 million tonnes of fruits from an area of 6.38 million hectare. Out of the all fruits production, grape occupies ninth position with a production 2.587 million tones and productivity 21.10 MT per hectare from an area 0.118 million ha. The major varieties of grapes grown in India are Thompson Seedless, Sonaka, Anab-e-Shahi, Perlette, Banglore blue, Pusa Seedless, Beuty Seedless etc. In grape production Maharashtra occupies the first position with a production of 18.10 lakh tonnes from an area 0.92 lakh ha, followed by Karnataka, Tamil Nadu, A.P. About 63 per cent production comes from Maharashtra (NHB-2015)

India is the major exporter of grapes in the world, the country has exported 17.26 thousand MT of fresh grapes worth `12.57 thousand Lakh during the year 2013-14. (APEDA- 2015). The major destinations of India's grapes were Netherland, Bangladesh, UAE, U.K, Russia and SudiArbia respectively. And Maharashtra State is accounts for 95% of the India's total fresh grape export.

Objectives:

1. To study the trends in area, Production and productivity of grapes in Maharashtra and India.

2. To study marketing methods, market practices, marketing cost, market margins and price spread in marketing of grapes.
3. To study export performance of grapes.
4. To work out the trends in arrivals and prices of grapes in major markets.

Methodology:

Selection of districts: The Sangli districts of the Maharashtra state were selected purposively as the area under grape is more concentrated in this district. Two tahsils having highest area under grapes cultivation (domestic as well as export purpose) were selected purposively. From each tahsil three villages were selected. Five farmers were randomly selected from small (up to 1 ha), medium (1 to 2 ha) and large (2 ha and above) size group comprising 15 farmers in each village. Thus, the total samples were of 90 grape growers.

Collection of data: The survey method was used for the collection of primary data for the year 2012-13. The data pertaining to the area, production and productivity of grape were taken from the authentic published sources. The data related to prices and arrivals of grape at different markets were collected from the regulated markets viz., Nashik, Pune, Sangli

and Vasi (Mumbai) for the period of thirteen years i.e. from 2001 to 2013.

Analysis of data: In the present investigation, the data collected for the year 2012-13 were compiled and analyzed by using statistical tools. Trend, Marketing cost, margins and price spread were worked. Multiple regression analysis were carried out for factors influencing on the prices of grapes. The export performance of grapes were studied by using exponential growth equation. From this equation compound growth rates were calculated

Markov chain analysis: The trade directions of grape exports were analyzed using the first order Markov chain approach. Central to Markov chain analysis is the estimation of the transitional probability matrix P. The elements P_{ij} of the matrix P indicates the probability that export will switch from country i to country j with the passage of time. The diagonal elements of the matrix measure the probability that the export share of a country will be retained. Hence, an examination of the diagonal elements indicates the loyalty of an importing country to a particular country's exports.

Export competitiveness: Export competitiveness for grapes will be calculated by using following formula $NPC = Pd/Pb$

Where,

NPC = Nominal protection coefficient

Pd = Domestic price

Pb = Border price or reference price after taking care of

transportation and marketing expenses

Results and Discussion:

Trends of area, production and productivity of grapes in Maharashtra and India: The period wise annual compound growth rates in area, production and productivity of grapes in Maharashtra and India are presented in table 1.

The area, production and productivity of grapes were positively significant for both during the period-I, while the production was non-significant and productivity was negatively non-significant during the Period-II.

At the overall level, the area and production increased significantly at the rate of 8.39, 8.34 per cent in Maharashtra and 6.74, and 6.08 per cent in India respectively. While the productivity declined negatively non-significantly at the rate of -0.04 and -0.62 per cent respectively, it may be due to drought during the year 2008 and 2009.

Production of grapes and its disposal: Production of any farm commodity is incomplete till the commodity reaches the ultimate consumer. The marketing process therefore, has been regarded as a part and parcel of the production activity. The information of Variety wise grape production and

disposal pattern of sample grape growers is presented in table 2.

It was depicted from the table 3 at overall level per hectare total quantity of grapes produced was 261.99 quintals, from this 97.82 per cent produce was sold in different markets, while 0.65 per cent produce was lost after harvest. The quantity used for home consumption and given for gratis was 0.22 and 0.26 per cent, respectively. It was concluded that the marketed surplus was highest (98%) as the majority of growers follow the practices for export oriented that's why the produce were not utilized for processing as compared to domestic production.

Marketing: Grape growers make adjustment in the pruning dates to get better prices for the produce. As per the quality parameter for export of grapes viz., berry size (more than 18mm diameter), Colour (uniform green or milky white), brix (more than 18) bunch weight (350-700gms) and the produce without residue of any pesticides. The picking of bunches is done early in the morning. After picking the produce is bought to the packing shed then after cleaning, grading kept for storage in cold storage unit for further transportation through container. It was observed from table 3 that 37 per cent of the total produce was marketed in domestic market while 63 per cent of the produce were marketed in export markets. The per farm quantity procured by the 'MAHAGRAPE' were only 5 per cent while that of private exporters were 58 per cent. On farm sale constituted 30 per cent of the total produce while self-marketing by the producer were 7 per cent. It implies that the majority of the growers sold their quantity through private exporters as they have the major role in export markets with high profit along with risk in exporting the grapes to different countries specially European and Middle East.

The information on itemwise cost of marketing of grapes in domestic markets through channel -III is presented in table 4.

The average per kg cost of marketing of grapes in Sangli district for 4 kg box and 10 kg. Karandi packing was `10.53 and `9.88 respectively in Mumbai markets. In case of local markets for 20 kg crate packing it was `7.24. The major contributing factor was transportation (30-40%) followed by the commission charges (16-29%). It implies that the grape growers are not able to bear this cost even though they got the more gross price in the domestic markets which needs to group and direct marketing to reduce the burden of marketing cost to some extent.

Marketing cost of grapes and net price realized: The average per quintal net price realized by the farmer's from Sangli district were `4733.77 and `1989.78 for export and domestic markets respectively. The average per quintal marketing cost

was `384 and `812 respectively. The marketing cost includes grading and packing charges paid to the labours and also meals to labours in case of export

markets. In case of domestic markets, in addition to labour charges it includes packing, transportation, commission and other miscellaneous charges.

Table 1. CGR of APY of Grapes in Maharashtra and India (1991- 2012)

Period	Maharashtra			India		
	A	P	Y	A	P	Y
I (1991-2001)	5.46 ^{***}	12.27 ^{***}	6.46 ^{***}	3.52 ^{***}	7.31 ^{***}	3.67 ^{***}
II (2002-2012)	10.32 ^{***}	3.79 ^{NS}	-5.926 ^{NS}	9.08 ^{***}	3.94 ^{NS}	-4.71 ^{NS}
Overall	8.39^{***}	8.34^{***}	-0.04 ^{NS}	6.74^{***}	6.08^{***}	-0.62 ^{NS}

*, **, *** = Significant at 10, 5, and 1 percent level of significance NS = Nonsignificant

Table 2 Production of grapes and their disposal (q/h)

Sr.No	Particulars	Small	Medium	large	overall
1	Marketed quantity				
a)	Tas - A- Ganesh	335.02	275.29	299.20	298.33
b)	Thompson Seedless	314.58	312.93	311.42	312.13
c)	Manikchaman	254.70	178.00	268.29	234.90
d)	2-A Clone	230.65	217.90	300.12	278.80
e)	Sonaka	294.10	313.60	255.18	272.38
f)	Krishna	253.64	196.03	0.00	210.88
g)	Sharad seedless	227.50	0.00	236.16	233.40
	Overall Marketed quantity	308.99 (97.04)	279.19 (97.67)	287.92 (98.55)	287.49 (98.14)
2	Used for home consumption	0.44 (0.14)	0.55 (0.19)	0.49 (0.17)	98.14 (0.15)
3	Given on gratis	0.70 (0.22)	0.83 (0.29)	0.57 (0.20)	0.47 (0.16)
4	Used for Processing	5.85 (1.84)	3.45 (1.21)	2.25 (0.77)	3.43 (1.17)
5	Loss due to pest and disease	2.44 (0.76)	1.83 (0.64)	0.91 (0.31)	1.10 (0.38)
6	Overall total produced quantity	318.41 (100.00)	285.85 (100.00)	292.15 (100.00)	292.92 (100.00)

(Figures in parenthesis indicates percentages to the total)

Price spread of grapes (Sonaka) through channel-III: Price spread refers to the difference between the price paid by the consumer and price received by the producer. This consists of marketing costs and margins of the intermediaries. The costs and margin of each agency in channel-III were worked out for different varieties and the details are presented in Table 6 and 7.

It can be revealed that for the Sonaka variety per kg. net price realized by the grape growers ranged from `19.75 to ` 32.19 in different markets. In the case Thompson seedless variety of grapes, the per kg. net price realized by the grape grower ranged from `25.75 to `23.58 and `24.50 to ` 16.25 respectively in different markets.

Channel	Market	Small		Medium		Large		Overall	
		Qty.	%	Qty.	%	Qty.	%	Qty.	%
		Export							
I	MAHAGRAPE	4.77	3.58	28.46	8.06	29.67	3.81	20.97	4.97
II	Private Exporter	81.26	60.97	190.49	53.95	464.70	59.73	245.48	58.25
	Subtotal	86.03	64.55	218.95	62.01	494.37	63.54	266.45	63.22
III		Domestic							
	Mumbai	7.80	5.85	27.94	7.91	37.14	4.77	24.29	5.76
	Sangli	0.37	0.28	6.32	1.79	5.15	0.67	3.95	0.94
	Subtotal	8.17	6.13	34.26	9.70	42.29	5.44	28.24	6.70
IV	Onfarm	39.08	29.32	99.90	28.29	241.32	31.02	126.77	30.08
	TOTAL	133.28	100.00	353.11	100.00	777.98	100.00	421.45	100.00

(Channel- I Producer- Private exporter- suppliers of consumer.Channel- III Producer- Commission Agent
 supper market – Retail shop-consumer.Channel- II /Wholesaler – Retailer- Consumer.Channel- IV
 Producer – Co-operative society – MAHAGRAPE- Producer- Fruit trader - Wholesaler – Retailer-
 suppliers of supper market – Retail shop- Consumer.)

Sr.No	Items of Marketing cost	Mumbai			Sangli
		4 Kg Box	10 Kg. Karandi	10 Kg crate	20 Kg Crate
1	Grading	0.65 (6.17)	0.60 (6.07)	0.60 (7.39)	0.67 (9.25)
2	Packaging	3.75 (35.61)	2.78 (28.14)	0.75 (9.24)	0.80 (11.05)
3	Transport	3.20 (30.39)	3.50 (35.43)	3.30 (40.64)	2.80 (38.67)
4	Commission	1.78 (16.90)	1.92 (19.43)	2.40 (29.56)	2.10 (29.01)
5	Postage/ Communication	0.35 (3.32)	0.30 (3.04)	0.20 (7.39)	0.20 (2.76)
6	Hamali	0.30 (2.85)	0.40 (4.05)	0.50 (6.16)	0.25 (3.45)
7	Weighing Charges	0.25 (2.37)	0.20 (2.02)	0.25 (3.07)	0.27 (3.73)
8	Miscellaneous	0.25 (2.37)	0.18 (1.82)	0.12 (1.48)	0.15 (2.07)
9	Total Cost	10.53 (100.00)	9.88 (100.00)	8.12 (100.00)	7.24 (100.00)

Table 5. Marketing cost and net price realized for grapes. (₹ / q)

Sr.No	Variety	Export (Channel-II)			Domestic (Channel-III)		
		Gross price	Marketing cost	Net price	Gross price	Marketing cost	Net price
1	Tas A Ganesh	4933.03	395.98	4537.05	2326.10	859.00	1467.10
2	Thompson	5155.11	409.31	4745.80	2471.72	859.00	1612.72
3	Manik Chaman	4630.23	377.81	4252.42	2080.96	859.00	1221.96
4	2-A Clone	4635.97	378.16	4257.81	1723.37	530.00	1193.37
5	Sonaka	4314.53	358.87	3955.66	3448.26	859.00	2589.26
6	Krishna	--	-	-	4000.00	859.00	3141.00
7	Sharad	--	-	--	3562.03	859.00	2703.03
8	Average	4733.77	384.03	4349.75	2801.78	812.00	1989.78

It can be revealed from Table 7 that marketing efficiency for Thompson Seedless variety was minimum for Mumbai market i.e. 0.36 ,while it was maximum for Sangli market i.e. 0.56 for the Sonaka variety .

Growth rate in export of grapes:

The exponential growth function used for estimation of compound growth rates in export of grapes from India is presented in Table 8.

The export quantity and value of grapes showed significant growth rate of 14.56 and 13.06 per cent per annum, respectively for the period 1991-2012. The instability index for the quantity exported showed stability in exporting grapes .

Table 6. Price spread of grapes (Sonaka) through channel- III. (₹ /kg)

Sr. No.	Name of functionary	Mumbai	%	Sangli	%
1	Producer's sales Price	38.00	46.68	25	50.22
2	Expenses incurred by the producer	9.50	11.67	5.25	10.55
3	Net price received by the producer	28.50	35.01	19.75	39.67
4	Expenses of whole seller/ commission agent	4.25	5.221	1.5	3.01
5	Wholesaler margin	12.00	14.74	6.5	13.06
6	Wholesaler's sales price	54.25	66.65	33.00	66.29
7	Expenses incurred by the retailer	7.15	8.784	4.78	9.60
8	Retailer's margin	20.00	24.57	12	24.11
9	Consumer's purchase price	81.40	100.00	49.78	100.00
10	Marketing Efficiency	0.54		0.66	

Table 7. Price spread of grapes (Thompson Seedless) sold through channel- III. (₹ /kg)

Sr. No	Name of functionary	Mumbai	%	Sangli	%
1	Producer's sales Price	32.00	49.92	20	44.17
2	Expenses incurred by the producer	7.50	11.7	3.75	8.28
3	Net price received by the producer	24.50	38.22	16.25	35.89
4	Expenses of whole seller/ commission agent	4.25	6.63	1.5	3.31
5	Wholesaler margin	10.00	15.6	10	22.08
6	Wholesaler's sales price	38.60	60.22	31.50	69.57

7	Expenses incurred by the retailer	5.50	8.58	4.78	10.56
8	Retailer's margin	20.00	31.2	9.00	19.88
9	Consumer's purchase price	64.10	100.00	45.28	100.00
10	Marketing Efficiency	0.36		0.56	

Table8. CGR and instability index of export of grapes from India
Qty ('000;MT) Value (' '000' Lakh)

Particulars	Period -I (1991-2001)		Period -II (1991-2001)		Overall period (2001-2012)	
	Qty.	Value	Qty.	Value	Qty.	Value
CGR	14.56 ^{***}	13.06 ^{***}	2.75 ^{NS}	-6.98 ^{NS}	22.36 ^{***}	25.86 ^{***}
R ²	0.845	0.593	0.097	0.158	0.912	0.919
CV	96.48	118.7	28.49	76.30	55.15	83.38
CD	37.96	75.76	27.07	70.01	16.34	23.68

CD = Cuddy and Della instability index

Direction of trade for export of grapes from India: The trade direction of Indian grapes to major importing countries were studied by estimating the transitional probability matrix using the Markov Chain Model. The transitional probability is depicted in Table9. Indicates the trader idea of change of the trade direction of Indian grapes over a period of 11 years (2002 to 2012). There were eight major countries, which imported heavily Indian grapes viz., Netherlands, Bangladesh, UAE, UK, Russia, Saudi Arabia, Germany, and Belgium. The exports to remaining countries were grouped as the 'other countries'.

As it could be seen from the table that the other countries were the most stable or importers of Indian grapes as they retained their original share about 82.94 per cent from the previous year. They lost their share of 15.34 per cent to Russia, even though the

other countries gained considerable amount from Bangladesh, Russia, Germany, and Belgium. Russia is another stable importer of Indian grapes as it retained 79.20 per cent of its share by losing 7.48 of Belgium, 6.71 per cent of other countries and 6.60 per cent of Netherlands. UK is next to Russia, as it retained 63.56 per cent of its own share by losing 16.58 per cent to Netherlands, 16.28 per cent to Belgium and 3.58 per cent to Germany i.e. for other European countries. Even though it gained 16.33 per cent from UAE, 15.93 per cent from Belgium and 10.87 per cent from Bangladesh. Netherlands, Saudi Arabia, UAE and Germany were the least stable importers of Indian grape by retaining the share of 38.30, 32.10 and 7.92 per cent respectively. Bangladesh and Belgium were the most unstable importers of Indian grapes during the study periods as both countries did not retained their share from the previous year.

Table 9. Transitional probability matrix of Indian grapes (2002-2012) Value (' lakh)

Country	Netherlands	Bangladesh	UAE	U.K.	Russia	Saudi Arabia	Germany	Belgium	Other
Netherlands	0.4052	0.3492	0.1847	0.0000	0.0000	0.0380	0.0000	0.0228	0.0000
Bangladesh	0.2279	0.0000	0.1740	0.1087	0.0000	0.1052	0.0000	0.0000	0.3842
UAE	0.5156	0.0000	0.3210	0.1633	0.0000	0.0000	0.0000	0.0000	0.0000
U.K.	0.1658	0.0000	0.0000	0.6356	0.0000	0.0000	0.0358	0.1628	0.0000
Russia	0.0660	0.0000	0.0000	0.0000	0.7920	0.0000	0.0748	0.0000	0.0671
Saudi Arabia	0.5293	0.0000	0.0000	0.0000	0.0000	0.3830	0.0000	0.0000	0.0877
Germany	0.9232	0.0000	0.0000	0.0000	0.0000	0.0000	0.0768	0.0000	0.0000
Belgium	0.2036	0.4263	0.0000	0.1593	0.0000	0.0000	0.2108	0.0000	0.0000
Other	0.0000	0.0000	0.0156	0.0000	0.1534	0.0016	0.0000	0.0000	0.8294

Nominal Protection coefficient (NPC) for export of Grapes: The NPC shows the divergence of domestic price from the international price and thus determines the degree of export competitiveness of the commodity the same is depicted in table 10.

The NPC for grapes was calculated for the last three years from 2011 to 2013 .The results showed that the NPC for Indian grapes are less than one for all the three years under study. The NPC for UK, UAE, Saudi Arabia, were less than 0.50 which indicates that Indian grapes are price competitive for international markets and scope to enhance the export to these nations. Netherlands was also one of the major importers of the world .It also preferred Chilean and South African grapes as compared to the Indian and other nation. To get the benefits of price competitiveness the India should meet the quality standards from European other nations.

Seasonal indices of arrivals and prices of grape: The seasonal indices of arrivals and prices for Mumbai market are depicted in Table 11.The higher indices for arrivals were noticed during the month of February and in March i.e. 210.91, in Nashik ,170 for Mumbai and Pune markets, while lower in the month of April , May and December. In the case of prices, the higher indices were seen during December to

January i.e. 122,113 and 110 in Mumbai , Nagpur and Pune market respectively, while lower during February to March i.e. 95.41,81.78, and89.66 in Mumbai , Nashik and Pune markets respectively. Lowest price indices was noticed during the month march i.e.72.45 in sangli market.

CGR of arrivals and prices of grapes in major markets of Maharashtra: The compound growth rates of annual arrivals and annual prices of the grapes were estimated by fitting exponential types of equations. The significance of the compound growth rates was examined with the help of student’s test. The results have been presented in Table12.

The compound growth rates of arrivals of grapes were only significant for Nashik market to the extent of 12.94 per cent at the 10 per cent level of significance. While in case of Sangli market it was negatively significant. The compound growth rate of price for the Mumbai, Nashik and Pune market were positive and significant at 1 per cent level of significance.

Price function of Gapes in major markets of Maharashtra: It can be said that the current month’s prices of grapes are dependent on the laggedmonth’s price of grapes and there exists positive relationship between dependent and independent variables.

Table 10.Nominal Protection of coefficient (NPC) for export of Grapes

Sr.No	Year/ Country	2011-12			2012-13			2013-14			Mean NPC
		20%	25%	30%	20%	25%	30%	20%	25%	30%	
1	Netherland	0.59	0.57	0.55	0.53	0.51	0.49	0.42	0.41	0.39	0.50
2	Russia	0.55	0.53	0.51	0.62	0.59	0.57	0.52	0.50	0.48	0.54
3	United Kingdom	0.57	0.55	0.53	0.47	0.45	0.44	0.40	0.38	0.37	0.46
4	United Arab Emirates	0.40	0.39	0.37	0.60	0.57	0.55	0.35	0.34	0.33	0.35
5	Bangladesh	0.66	0.64	0.61	2.72	2.61	2.51	0.69	0.66	0.63	0.73
6	Saudi Arabia	0.34	0.32	0.31	0.68	0.65	0.63	0.42	0.40	0.39	0.34
7	Thailand	0.20	0.20	0.19	0.42	0.40	0.39	0.17	0.16	0.16	0.18
8	Sweden	0.63	0.60	0.58	0.43	0.41	0.39	0.34	0.32	0.31	0.45
9	Ukraine	0.66	0.63	0.61	0.65	0.62	0.60	0.59	0.57	0.55	0.61
10	Germany	0.72	0.69	0.66	0.67	0.64	0.61	0.48	0.46	0.44	0.60
11	Hong Kong	0.58	0.56	0.54	0.43	0.41	0.40	0.33	0.32	0.30	0.43
12	Spain	0.52	0.50	0.48	0.50	0.48	0.46	0.52	0.50	0.48	0.49
13	Sri Lanka	0.29	0.27	0.26	0.63	0.60	0.58	0.40	0.38	0.37	0.31
14	Denmark	0.58	0.55	0.53	0.50	0.48	0.46	0.37	0.36	0.35	0.46
15	Norway	0.50	0.48	0.46	0.47	0.45	0.43	0.37	0.35	0.34	0.43
16	Nepal	0.93	0.89	0.86	1.51	1.45	1.39	0.68	0.66	0.63	0.77
17	Belgium	0.54	0.52	0.50	0.55	0.53	0.51	0.42	0.41	.039	0.48

(The border price is calculated @ 20, 25 and 30 per cent of domestic price less of FOB)

Sr.No	Month	Mumbai		Nagpur		Nashik		Pune		Sangli	
		Arrivals	Prices	Arrivals	Prices	Arrivals	Prices	Arrivals	Prices	Arrivals	Prices
1	December	59.60	122.56	91.95	113.04	4.27	95.81	45.29	110.26	87.57	107.49
2	January	123.93	104.95	54.08	85.35	56.09	103.98	131.29	101.20	35.42	128.28
3	February	170.97	95.41	53.40	109.60	210.91	81.78	170.72	89.66	52.71	110.43
4	March	157.63	81.80	134.03	96.30	214.65	82.04	160.11	90.76	161.11	72.45
5	April	73.10	96.17	153.04	95.62	101.71	103.51	78.22	101.96	163.19	81.36
6	May	14.77	99.11	113.50	100.10	12.39	132.87	14.37	106.17	NA	NA
	Total	600.00	600.00	600.00	600.00	600.00	600.00	600.00	600.00	500.00	500.00

Sr.No	Market	Constant (a)	b ₁	b ₂	R ²
1	Mumbai	623.29	-0.0086 (0.0119)	0.8349**** (0.0694)	0.6757
2	Nagpur	1556.59	-0.2829 (0.2118)	0.3572*** (0.1086)	0.1803
3	Pune	862.37	-0.0887 (0.1086)	0.7424*** (0.0803)	0.5396
4	Nashik	743.06	-0.12364 (0.0931)	0.6727*** (0.0931)	0.4107

Conclusions: The importing countries like Netherlands, Bangladesh and other countries contributed the major share of total export (25.82, 4.85 and 27.11 %). While Russia showed increasing share (12.47 %). The UK and other European countries showed the decreasing contribution it might be due to the quality parameters and other competing countries to Indian grapes. The most stable or importers of Indian grapes were other countries,

Russia, Netherlands, UK, while Saudi Arabia, UAE and Germany were the least stable and Bangladesh and Belgium were the most unstable importers of Indian grapes .

The NPC for UK, UAE, Saudi Arabia, were less than 0.50 which indicates that Indian grapes are price competitive for international markets and scope to enhance the export to these nations.

References:

1. Anonymous, 2003. Present status and export potentials of grapes and pomegranate in India. Agresco Report, Dept. of Agril. Econ. MPKV, Rahuri. pp. 1-30.
2. Bagal, A.A. 2003. The study of marketing of grapes in selected area of Sangli district. M.Sc. (Agri.) Thesis (Unpublished) submitted to M.P.K.V., Rahuri.
3. Bhosale, S.S., B.K. Mali., P.N. Shendage and D.V. Kasar. 2004. Present status and export potential of grape in India. Agricultural Situation in India. February, 2004. 723-732.
5. Diwase S.S, 1998. Export marketing of grapes : Issues and challenges. Indian Journal of Agril. Economics. 53(3) : 396.
6. Deshpande, B.S., C.D. Deole and J.N. Borle. 1992. Price spread in different channels of marketing of grapes in Latur district. Maharashtra. J. of Agril. Economics. 4(1): 28.
7. Hadawale, V.V. 2005. Production and marketing management of grapes in Junnartahsil of Pune district. M.Sc. (Agri.) Thesis (Unpublished) submitted to M.P.K.V., Rahuri, (M.S.).
8. Kale N.K., M.N. Waghmare, G.G. Nimbarkar. 2010. Value Chain Management in Export of Grapes from Western Maharashtra. Agricultural Economics Research Review. 23: 556.
9. Ladaniya, M.S., V. Wanjari and B. Mahalle. 2005. Marketing of grapes and raisins and post-harvest

-
- losses of fresh grapes in Maharashtra. Indian Journal of Agricultural Research. 39 (3) : 167-176.
10. Shitole, B.B. 2010. Problems of Grape marketing : A study of Sangli District in Maharashtra. The International Online Journal–Literature, Humanities and Communication Technologies. 3(2) 8-11.

Shinde H.R/Deptt.Of Agricultural economics, MPKV, Rahuri. Dist. Ahmednagar -413722
B.J Deshmukh /Junior Res. Asstt. And Asst. Professor/Navadkar D/Associate Professor / D.B. Yadav/Head
Deptt. ofAgril. Economics/ MPKV/ Rahuri/bjdeshmukh19@yahoo.co.in
Mobile –(91)9422231216