



EXPORT OPPORTUNITIES AND COMPETITIVENESS OF VEGETABLE CROPS IN GUJARAT

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Abstract- The vegetable crops are priority in agriculture by virtue of its vast potential in improving the socio-economic conditions of the farmers due to its production potentiality in a short period. In this study tabular analysis and Nominal Protection Coefficient measures has been used to measure the export potentiality and competitiveness of different vegetable crops in Gujarat. Greater potentiality of vegetable export was found due to its increasing trend of production and productivity. Potato as well as onion crop was found greater potentiality of export from Gujarat. The export of different vegetables i.e. cabbage, potato, tomato and onion was found competitive to other countries and among these four major crops, cabbage was found to be highest export competitive crop. Therefore, cabbage crop needs special attention for promotion of export from Gujarat. Singapore, Indonesia and Qatar and Russia were found to be highest export competitiveness for cabbage, onion, tomato and potato, respectively.

Keywords- Export opportunities, competitiveness, vegetable crops, India

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Introduction

Agriculture has been a way of life and continues to be the single most important livelihood of the masses. India is the second largest economy in Asia after China, as measured in terms of its GDP [1]. Indian agriculture has undergone rapid transformation in the past two decades. The policy of globalisation and liberalisation has opened up new avenues for agricultural modernisation. The Prime Minister's Economic Advisory Council (PMEAC), headed by C. Rangarajan, recommended promotion of high-value agriculture and reforms in agri-marketing policies including the APMC Acts for boosting further growth [2]. Trade in fruit and vegetables products has been among the most dynamic areas of international agricultural trade, stimulated by rising incomes and growing consumer interest in product variety, freshness, convenience and year round availability [3]. Agriculture is projected to grow at 4.8 per cent in 2013-14 as against 1.9 per cent in 2012-13. It said output of horticultural produce (fruits and vegetables) and animal husbandry (milk, eggs and meat) as well as that of fisheries are likely to remain in upward trajectory with annual growth of around 4 to 5 per cent in the current fiscal [2]. India's diverse climate ensures availability of all varieties of fresh fruits & vegetables. Presently, India is the second largest producer of fruits & vegetables in the world after China.

The cropping pattern in Gujarat has been shifting away from the low value traditional crops to high value commercial crops with business and export potential. Gujarat has substantial potential in the exports of agri-products. The export intensity of agri-products in Gujarat (11.9%) is substantially higher than the nation (3.2%), which makes the agri-exports from Gujarat positively sensitive to the exchange

rate depreciation unlike the national exports of manufactures or agri-products [4]. The most urgent need today is to increase the production of nutritious food in a sustainable manner and improve farm income to ensure household food and nutritional security, while conserving the natural resource base. Vegetables are the vital sources of minerals, vitamins and dietary fibers and play an important role in supplying nutrition to human health. Vegetables require comparatively lesser quantities of agro-inputs to grow [5]. The state has ample potential to export various processed products of the vegetables as powder and dehydrated forms, canned vegetables, pickles, chutney (Sauce) & ketchup. Nearly half of the produce is being exported. The state has a variety of agro climatic conditions which allows one to produce diversified crops. Gujarat is one of the fastest transforming states in India. Farmers are moving towards high value crops and cash crops which allow them to earn greater income through export. In the backdrop of growing above potentialities, this study was conducted to analyse the opportunities and competitiveness for the export of different vegetables crops at global level.

Methodology

To achieve the specific objectives of the study, secondary data on area, production, productivity and export of different vegetable for TE 2010-11 were collected and compiled from the different official sources like various issues of Food and Agricultural Organisation (FAO) Trade Year Book, Export Statistics for Agro-Food Products (an Agricultural and Processed Food Exports Development Authority (APEDA) publication), Horticultural Database (a National Horticul-

ture Board (NHB) publication, Statistical Abstract (Directorate of economic & statistics, Gandhinagar) and from Directorate General of Commercial Intelligence and Statistics, Ministry of Commerce & Industry, Govt. of India. The study also required information on transportation cost including cost of grading, packaging, loading, chemical material, fumigation etc. from Ahmadabad to export destination point (Kandla, Gujarat) during pre-export of different vegetable products, which is obtained from Greenways shipping, Rajendranagar, Ahmedabad. The Wholesale prices of different vegetables at Ahmadabad market recorded during the year of 2010-11 have been taken as domestic price of the crops.

The export competitiveness of different vegetable crops for the year 2010-11 was assessed by using a simple measure known as Nominal Protection Coefficient (NPC). This is the ratio of domestic price to border price.

Symbolically

$$NPC = P_d/P_b$$

Where, NPC = Nominal Protection Coefficient

P_d = Domestic price of commodity

P_b = Border price or reference price of commodity after taking care of transportation and marketing expenses.

NPC shows degree of divergence of domestic price from the international price and determines the degree of export competitiveness of the commodity in question *i.e.* if the $NPC < 1$ the commodity under consideration is of export competitive [6].

In order to identify the most favorable countries for export NPC value was computed for different importing countries of vegetable crops and classified into three categories *i.e.* Highly competitive ($NPC < 0.5$), Moderately competitive ($0.5 < NPC < 1$) and non competitive ($NPC > 1$).

Results and Discussion

The major vegetables producing countries in the world with respect to area, production and productivity for the average of three years *i.e.* 2008-09 to 2010-11 and the percentage share of area and production in total vegetable production in the world was shown in [Table-1]. The results revealed that highest proportion of area and production of vegetables in the world was found in China followed by India, USA, Turkey, and Egypt and lowest was found in Spain. In case of productivity, Spain was found highest (35.90 MT/ha) followed by USA (31.61 MT/ha), Italy (25.80 MT/ha), Iran (25.52 MT/ha), whereas India was found at lowest position with the productivity of 16.74 MT/ha. Greater proportion of area as compared to the proportion of its production in India shows greater potentiality to increase its productivity as well as its production in future.

[Table-2] shows that trend in percentage shares of area and production of Gujarat in total vegetable production in India. It was found that trend in area under vegetable crops in India as well as in Gujarat was increasing over a decade except during year 2002-03 and 2003-04 in India and during 2006-07 and 2008-09 in Gujarat. Further it is interesting to see that the trend in area under vegetables production in India has shown greater fluctuation over a decade as compared to Gujarat [Fig-1]. The trend in production under vegetable crops in India as well as in Gujarat was increasing over a decade except during 2002-03 in India and during 2006-07 and 2008-09 in Gujarat. In case of productivity Gujarat was found slightly higher as compared to India in most of the period in a decade. Almost similar trend of gradually increasing performance of produc-

tivity of vegetable crops has been observed in India as well as in Gujarat [Fig-2]. The trend in percentage share of Gujarat in total area and production of India has also been increased over a decade [Fig-3]. It is inferred that potentiality of export of vegetable crop was found reasonably higher in Gujarat as compared to India.

Table 1- Major vegetables producing countries in the world (TE 2010-11)

Country	Area	Per cent area (%)	Production	Per cent production (%)	Productivity
China	23069.1	42.47	462875	47.78	20.06
India	8153.6	15.01	136456	14.09	16.74
USA	1149.31	2.12	36325.8	3.75	31.61
Turkey	1099.77	2.02	26710.3	2.76	24.29
Iran	650.8	1.2	16608.7	1.71	25.52
Russian Fed.	796.17	1.47	13880.1	1.43	17.43
Egypt	899.98	1.66	17479.6	1.8	19.42
Italy	528.1	0.97	13627.4	1.41	25.8
Spain	353.67	0.65	12695.5	1.31	35.9
OTHERS	17613.5	32.43	232036	23.95	13.17
WORLD	54314	100	968694	100	17.84

(Area in 000 hectares/ Production in 000 MT/ Productivity in MT/ hectare)

Table 2- Area, production and productivity of total vegetables in India and Gujarat over a decade

Year	Area			Production			Productivity	
	India	Gujarat	Per cent of GJ (%)	India	Gujarat	Per cent of GJ (%)	India	Gujarat
2001-02	6156	236.7	3.85	88622	3299.13	3.72	14.4	13.94
2002-03	6092	248.16	4.07	84815	3515.16	4.14	13.9	14.16
2003-04	6082	325.38	5.35	88334	4579.82	5.18	14.5	14.08
2004-05	6744	331.43	4.91	101246	4866.98	4.81	15	14.68
2005-06	7213	380.18	5.27	111399	6308.24	5.66	15.4	16.59
2006-07	7581	366.05	4.83	114993	6062.63	5.27	15.2	16.56
2007-08	7848	411.78	5.25	128449	7402.92	5.76	16.4	17.98
2008-09	7981	394.89	4.95	129077	6807.07	5.27	16.2	17.24
2009-10	7985	406.81	5.09	133738	7255.49	5.43	16.7	17.84
2010-11	8495	515.92	6.07	146555	9379.47	6.4	17.3	18.18

(Area in 000 hectares/ Production in 000 MT/ Productivity in MT/ hectare)

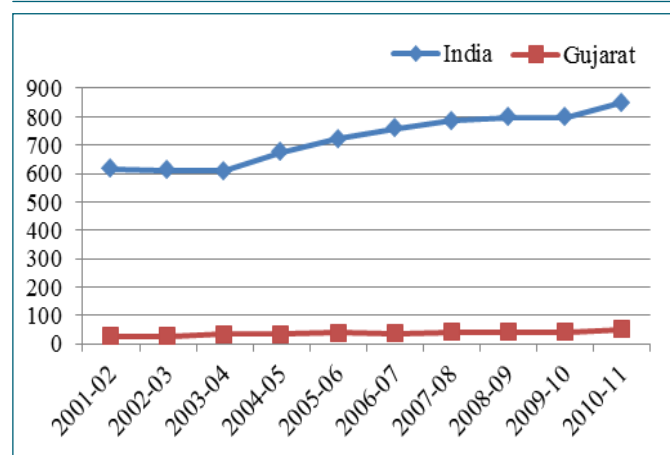


Fig. 1- Trend in Area ('000 ha) under Vegetables Production in India and Gujarat

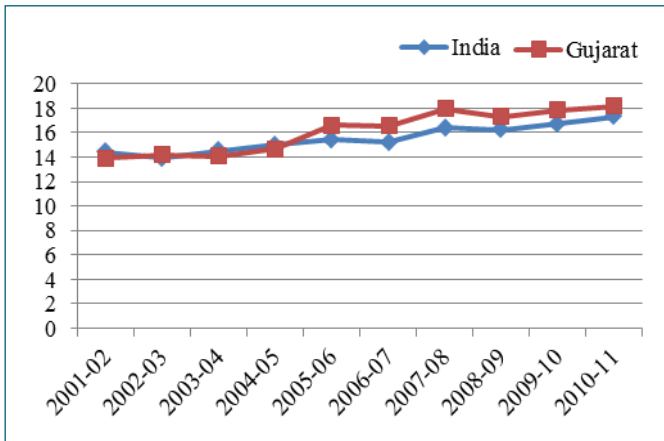


Fig. 2- Trend in Productivity (MT/ha) of vegetables in India and Gujarat

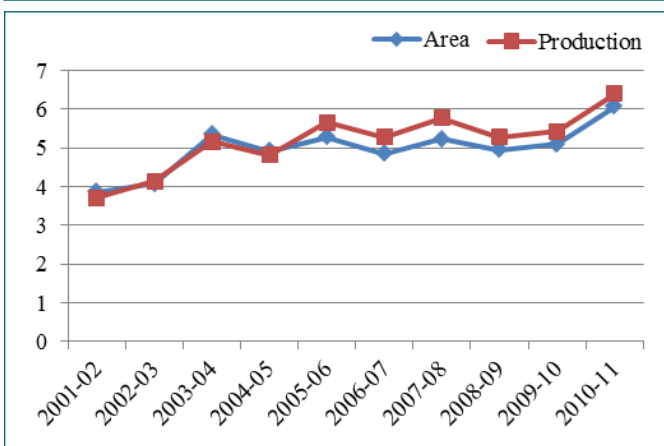


Fig. 3- Trend in percentage share of area and production of Gujarat in India

[Table-3] provides the estimates of area, production and productivity of different vegetable crops in India and Gujarat for the average

of three years i.e. 2008-09 to 2010-11. It can be seen from the table that, area as well as production of potato crop was found highest among all the other vegetable crops in India as well as in Gujarat. In case of productivity, cabbage (21.87 MT/ha) and potato (27.35 MT/ha) was found highest among all other crops in India and Gujarat, respectively. Further it is observed from the table that, the productivity of all the vegetable crops including total vegetables was found higher in Gujarat as compared to India, except Cabbage crop. In case of production, the proportional share of onion crop in Gujarat was found highest (9.80 per cent) among all other crops including total vegetable in India. In Gujarat, potato crop was lowest proportional share both in case of areas (3.30 per cent) and production (4.40 per cent). Thus, potato as well as onion crops have greater potentiality of export from Gujarat whereas; potato crop needs to be more focused.

The perusal of [Table-4] revealed that Gujarat has placed on the seventh position in both area (5.69 per cent) as well as in production (6.06 per cent) of vegetables among different states in India. In case of productivity Gujarat has been ranked at eighth position (17.73 MT/ha) and the highest productivity was found in Lakshadweep (32.90 MT/ha) followed by Tamil Nadu (29.73 MT/ha), Kerala (22.47 MT/ha), Uttar Pradesh (20.83 MT/ha), Jammu & Kashmir (19.67 MT/ha), Punjab (19.63 MT/ha) and West Bengal (17.93 MT/ha).

Table 3- Area, Production and Productivity of different vegetables in India and Gujarat (TE 2010-11)

Vegetables	Area			Production			Productivity	
	India	Gujarat	Per cent of G.J (%)	India	Gujarat	Per cent of G.J (%)	India	Gujarat
Potato	1842	60.79	3.3	37769	1662.55	4.4	20.47	27.35
Tomato	699.33	34.37	4.92	13369.3	855.31	6.4	19.1	24.88
Onion	884.67	54.35	6.14	13614	1334.08	9.8	15.53	24.55
Cabbage	336.67	25.58	7.6	7366.67	477.29	6.48	21.87	18.66
Total	8153.67	439.18	5.39	136456	7814.01	5.73	16.73	17.79

(Area in 000 hectares/ Production in 000 MT/ Productivity in MT/hectare)

Table 4- Major vegetable producing States in India (TE 2010-11)

State	Area	Per cent area (%)	State	Production	Per cent Production (%)	State	Productivity
West Bengal	1325.33	17.18	West Bengal	23778.78	18.45	Lakshadweep	32.9
Uttar Pradesh	945.77	12.26	Uttar Pradesh	19688.41	15.28	Tamil Nadu	29.73
Bihar	835.97	10.84	Bihar	13974.23	10.84	Kerala	22.47
Orissa	640.17	8.3	Orissa	8407.03	6.52	Uttar Pradesh	20.83
Maharashtra	503.7	6.53	Tamil Nadu	8200.37	6.36	Jammu & Kashmir	19.67
Karnataka	451.83	5.86	Karnataka	7954.5	6.17	Punjab	19.63
Gujarat	439.17	5.69	Gujarat	7814.03	6.06	West Bengal	17.93
Andhra Pradesh	435.7	5.65	Andhra Pradesh	7513.77	5.83	Gujarat	17.73
Chhattisgarh	321.27	4.17	Maharashtra	6681.53	5.18	Karnataka	17.57
Haryana	315.23	4.09	Haryana	4176.57	3.24	Himachal Pradesh	17.53
Tamil Nadu	275.77	3.58	Jharkhand	3739.53	2.9	Pondicherry	17.03
Madhya Pradesh	275.37	3.57	Madhya Pradesh	3639	2.82	Chandigarh	17
Assam	251.8	3.26	Chhattisgarh	3630.3	2.82	Delhi	16.97
Jharkhand	237.9	3.08	Punjab	3506.2	2.72	Andhra Pradesh	16.93
Punjab	178.6	2.32	Kerala	3473.4	2.69	Bihar	16.7
Total	7712.17			128888.2			16.67

(Area in 000 hectares/ Production in 000 MT/ Productivity in MT/ hectare)

[Table-5] depicts the country wise export of cabbage from India for the average of 2008-09 to 2010-11. The table indicated that the total export of cabbage was 1014 MTs, whereas in terms of value it was Rs 84.77 lakhs. The highest export of cabbage was found to United

Arab Emirates accounting for about 76.06 percentage share in total export quantity followed by Maldives (16.21 per cent), Nepal (2.12 per cent) and Singapore (0.04 per cent). The same pattern of export has been observed in terms of value.

Table 5- Export of Cabbage from India to different countries (TE 2010-11)

Country	Quantity	Per cent Quantity (%)	Value	Per cent Value (%)
United Arab Emirates (UAE)	771.23	76.06	58.5	69.01
Maldives	164.37	16.21	12.87	15.18
Nepal	21.5	2.12	1.1	1.3
Singapore	0.4	0.04	0.1	0.12
Others	56.5	5.57	12.2	14.39
Total	1014	100	84.77	100

(Quantity in MTs/ Value in INR Lakhs)

[Table-6] shows the country wise export of onion from India for the average of 2008-09 to 2010-11. [Table-6] indicated that the total export of onion was 1499527.10 MTs, whereas in terms of value it was Rs 196283.53lakhs. The highest export of onion was found to Bangladesh accounting for about 40.93 percentage share in total export quantity followed by Malaysia (19.12 per cent), UAE (10.29 per cent), Sri Lanka (8.80 per cent) and Pakistan (6.13 per cent). The same pattern of export has been observed in terms of value. [Table-7] revealed the country wise export of tomato from India for the average of 2008-09 to 2010-11. [Table-7] shows that the total export of tomato was 99554.17 MTs, whereas in terms of value it was Rs 11523.93 lakhs. The highest export of tomato was found to Pakistan accounting for about 60.00 percentage share in total export quantity followed by UAE (18.64 per cent), Bangladesh (15.37 per cent), and Nepal (2.43 per cent). The same pattern of export has been observed in terms of value.

Table 6- Export of Onion from India to different countries (TE 2010-11)

Country	Quantity	Per cent Quantity (%)	Value	Per cent Value (%)
Bangladesh	613700	40.93	81141.8	41.34
Malaysia	286754	19.12	30867	15.73
Sri Lanka	131992	8.8	17595.9	8.96
United Arab Emirates	154357	10.29	18689.2	9.52
Indonesia	21798.2	1.45	3893.33	1.98
Pakistan	91935.3	6.13	10650.1	5.43
Singapore	23267	1.55	2999.47	1.53
Nepal	36543.9	2.44	2783.33	1.42
Oman	16600.3	1.11	1929.7	0.98
Vietnam Social Republic	6403.37	0.43	895.73	0.46
Others	116175	7.75	24838	12.65
Total	1499527	100	196284	100

(Quantity in MTs/ Value in INR Lakhs)

[Table-8] revealed the country wise export of potato from India for the average of 2008-09 to 2010-11. It is clear from [Table-8] that the total export of potato was 154441.80 MTs, whereas in terms of value it was Rs 11449.43 lakhs. The highest export of potato was found to Nepal accounting for about 53.13 percentage share in total export quantity followed by Sri Lanka (11.53 per cent), Russia (3.31 per cent), and Maldives (2.66 per cent). [Table-9] revealed the country wise export of Dried & Preserved Vegetables from India for the average of 2008-09 to 2010-11. [Table-9] shows that the total export of Dried & Preserved Vegetables was 127549.43 MTs whereas in terms of value it was Rs 51515.37 lakhs. The highest export of Dried & Preserved Vegetables was found to United States accounting for about 16.92 percentage share in total export quantity followed by France (13.86 per cent), Russia (10.48 per cent), and

Spain (9.87 per cent).

Table 7- Export of Tomato from India to different countries (TE 2010-11)

Country	Quantity	Per cent Quantity (%)	Value	Per cent Value (%)
United Arab Emirates	18557.9	18.64	3346.47	29.04
Bangladesh	15299.6	15.37	1523.87	13.22
Saudi Arabia	837.17	0.84	191.77	1.66
Oman	897.53	0.9	201.37	1.75
Pakistan	59729.9	60	5932.27	51.48
Nepal	2423.7	2.43	153.53	1.33
Maldives	1291.1	1.3	92.8	0.81
Bahrain	185.27	0.19	39.13	0.34
Kuwait	93.9	0.09	17.67	0.15
Qatar	21.77	0.02	4.87	0.04
Others	216.4	0.22	20.13	0.17
Total	99554.2	100	11523.9	100

(Quantity in MTs/ Value in INR Lakhs)

Table 8- Export of Potato from India to different countries (TE 2010-11)

Country	Quantity	Per cent Quantity (%)	Value	Per cent Value (%)
Nepal	82051.2	53.13	3947.87	34.48
Sri Lanka	17805.3	11.53	2439.03	21.3
Russia	5108.43	3.31	954.07	8.33
Malaysia	3323.23	2.15	351.33	3.07
Mauritius	3379.27	2.19	493.27	4.31
Maldives	4104.6	2.66	311.57	2.72
United Arab Emirates	3032.5	1.96	291.53	2.55
Singapore	1253.7	0.81	91.83	0.8
Vietnam Social Republic	185.83	0.12	26	0.23
Brunei	135.27	0.09	20.97	0.18
Others	34062.3	22.06	2522.07	22.03
Total	154442	100	11449.4	100

(Quantity in MTs/ Value in INR Lakhs)

Table 9- Export of Dried & Preserved Vegetables from India to different countries (TE 2010-11)

Country	Quantity	Per cent Quantity (%)	Value	Per cent Value (%)
Russia	13,366.17	10.48	5,000.67	9.71
Germany	4,665.53	3.66	4,119.90	8.00
Malaysia	2,686.23	2.11	1,431.73	2.78
United States	21,586.77	16.92	7,329.37	14.23
France	17,677.67	13.86	6,111.80	11.86
Spain	12,589.37	9.87	3,627.97	7.04
United Kingdom	3,919.37	3.07	2,720.57	5.28
Belgium	7,604.13	5.96	2,756.23	5.35
Poland	1,249.67	0.98	882.50	1.71
Brazil	1,272.13	1.00	995.63	1.93
Others	40,932.50	32.09	16,539.03	32.11
Total	127,549.43	100.00	51,515.37	100.00

(Quantity in MTs/ Value in INR Lakhs)

The data related to exports of different vegetable crops is used to work out the NPC which is presented in [Table-10]. It clearly shows that the export of all the different vegetables was found to be moderately competitive. Out of four vegetable crops cabbage was found most competitive with the lowest NPC (0.539), followed by potato

(0.712), tomato (0.786) and onion (0.843). The [Table-11] shows the country wise NPC for cabbage export from Gujarat during the year 2011. It indicates that export of cabbage was highest competitive to Singapore with the lowest NPC of 0.226, followed by UAE (0.392). It was moderately competitive to the Maldives (0.706) whereas, it was found non competitive in case of Nepal (1.796). The country wise NPC for exporting of onion from Gujarat during

2010-11 is presented in the [Table-12]. It is clear from [Table-12] that Indonesia with NPC of 0.586 was found most competitive country for exporting of onion from India followed by Malaysia (0.735), Sri Lanka (0.818), Bangladesh (0.865), Singapore (0.908) etc. . The countries like Oman (1.022), Pakistan (1.094) and Nepal (1.627) was found non competitive.

Table 10- Crop wise analysis of vegetable export from Gujarat during 2010-11

Vegetable	Quantity (MT)	Value (INR Lakhs)	Wholesale Price (Pd) (INR/kg)	FOB price (INR/kg)	Other* charges (INR/kg)	Total Marketing expenses (INR/kg)	Reference price (Pb) (INR/kg) (FOB price – Total marketing expenses)	NPC (Pd/Pb)	Competitiveness
Cabbage	404.9	45.6	5.33	11.26	0.5	1.38	9.88	0.539	Moderately competitive
potato	184276.5	15424.1	4.86	8.37	0.66	1.54	6.83	0.712	"
Tomato	68183.7	11480.6	11.87	16.84	0.85	1.73	15.11	0.786	"
Onion	1163472.6	174155.4	11.41	14.97	0.55	1.43	13.54	0.843	"

Transportation cost (From Ahmedabad to Kandla): 0.88 INR/kg
*Other charges including grading, packing, handling & taxes in (INR/kg)

Table 11- Country wise analysis of cabbage export from Gujarat during 2010-11

Country	Quantity (MT)	Value (INR Lakhs)	FOB price (INR/kg)	Reference price (Pb) in INR/kg (FOB price - Total marketing expenses)	NPC (Pd/Pb)	Competitiveness
Singapore	1.2	0.3	25	23.62	0.226	Highly competitive
UAE	168.1	25.2	14.99	13.61	0.392	"
Maldives	214.9	19.2	8.93	7.55	0.706	Moderately competitive
Nepal	20.7	0.9	4.35	2.97	1.796	Non competitive

Wholesale Price (Pd): 5.33 INR/kg; Total marketing expenses: 1.38 INR/kg

Table 12- Country wise analysis of onion export from Gujarat during 2010-11

Country	Quantity (MT)	Value (INR Lakhs)	FOB price (INR/kg)	Reference price (Pb) in INR/kg (FOB price - Total marketing expenses)	NPC (Pd/Pb)	Competitiveness
Indonesia	43061.3	9000	20.9	19.47	0.586	Moderately competitive
Malaysia	273233	46343.5	16.96	15.53	0.735	"
Sri Lanka	114450	17599.2	15.38	13.95	0.818	"
Bangladesh	391550	57233.4	14.62	13.19	0.865	"
Singapore	20876.3	2920.6	13.99	12.56	0.908	"
Vietnam	15281.5	2077.5	13.59	12.16	0.938	"
UAE	126229	16627.7	13.17	11.74	0.972	"
Oman	17988.6	2266.2	12.6	11.17	1.022	Non competitive
Pakistan	45689.1	5417.6	11.86	10.43	1.094	"
Nepal	29977.6	2530.4	8.44	7.01	1.627	"

Wholesale Price (Pd): 11.41 INR/kg; Total marketing expenses: 1.43 INR/kg

Table 13- Country wise analysis of tomato export from Gujarat during 2010-11

Country	Quantity (MT)	Value (INR Lakhs)	FOB price (INR/kg)	Reference price (Pb) in INR/kg (FOB price - Total marketing expenses)	NPC (Pd/Pb)	Competitiveness
Qatar	19.6	8	40.82	39.09	0.304	Highly competitive
Oman	2203.6	532	24.14	22.41	0.53	Moderately competitive
Saudi Arabia	2261.5	539.4	23.85	22.12	0.537	"
Kuwait	125.9	29.9	23.75	22.02	0.539	"
Bahrain	442.3	102.2	23.11	21.38	0.555	"
UAE	33902.9	7468.6	22.03	20.3	0.585	"
Bangladesh	19711.9	2048.2	10.39	8.66	1.371	Non competitive
Pakistan	3708.9	340.6	9.18	7.45	1.593	"
Nepal	3266.6	227.3	6.96	5.23	2.27	"
Maldives	2447.7	169.8	6.94	5.21	2.28	"

Wholesale Price (Pd): 11.87 INR/kg; Total marketing expenses: 1.73 INR/kg

Table 14- Country wise analysis of potato export from Gujarat during 2010-11

Country	Quantity (MT)	Value (INR Lakhs)	FOB price (INR/kg)	Reference price (Pb) in INR/kg (FOB price - Total marketing expenses)	NPC (Pd/Pb)	Competitiveness
Russia	15325.3	2862.2	18.68	17.14	0.284	Highly competitive
Brunei	254.7	40.2	15.78	14.24	0.341	"
Mauritius	4871.2	758.5	15.57	14.03	0.346	"
Vietnam	448	66.9	14.93	13.39	0.363	"
Sri Lanka	34744.8	4687.5	13.49	11.95	0.407	"
UAE	3389.7	416.4	12.28	10.74	0.452	"
Malaysia	8144.4	892.3	10.96	9.42	0.516	Moderately competitive
Maldives	6019	478.8	7.95	6.41	0.758	"
Singapore	1716.5	134	7.81	6.27	0.776	"
Nepal	107838	4948.3	4.59	3.05	1.594	Non competitive

Wholesale Price (Pd): 4.86 INR/kg; Total marketing expenses: 1.54 INR/kg

The values in [Table-13] represent the country wise NPC for tomato export from Gujarat during 2010-11. The Qatar was highly competitive with NPC of 0.304 for export of tomato whereas the countries like Oman (0.530), Saudi Arabia (0.537), Kuwait (0.539), Bahrain (0.555) and UAE (0.585) were found moderately competitive. Further, the export of tomato was found non competitive for Bangladesh (1.371), Pakistan (1.593), Nepal (2.270) and Maldives (2.280). During the year 2010-11, [Table-14] reveals that export of potato was found highly competitive for countries like Russia (0.284), Brunei (0.341), Mauritius (0.346), Vietnam (0.363), Sri Lanka (0.407) and UAE (0.452). It was found moderately competitive for Malaysia (0.516), Maldives (0.758) and Singapore (0.776). Nepal with NPC of 1.594 was found non competitive for export of potato from Gujarat.

Conclusion

Though the increasing trend of production of vegetable crops in Gujarat was observed during recent years, the productivity of vegetables was yet found lower as compared to advanced countries. Therefore, it may be implied that there has been scope to increase the production of vegetable crops in Gujarat. As government has been trying to promote the export of horticultural crops, lot of opportunity may be apparent in export of vegetable crops from Gujarat. Gujarat has greater potentiality to compete in export of vegetables among different countries in the world.

Potato crop was found highest area, production as well as productivity among all other vegetables in Gujarat. Potato as well as onion crop was found greater potentiality of export from Gujarat. The countries like UAE, Bangladesh, Pakistan, Nepal and United State account for major share in export of cabbage, onion, tomato, potato and dried and preserved vegetables, respectively from India.

Overall, the export of all these vegetables *i.e.* cabbage, potato, tomato and onion was found competitive and among these four major crops, cabbage was found to be highest export competitiveness. Therefore, cabbage crop needs special attention for promotion of export from Gujarat. Singapore, Indonesia and Qatar and Russia were found to be highest export competitiveness for cabbage, onion, tomato and potato, respectively.

Conflicts of Interest: None declared.

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