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A study on Export Competitiveness of selected Fruits and Vegetables in India.

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1.1 Introduction:

Agriculture has remained the backbone of India and is still the mainstay of the India economy as its share in total GDP accounts to be 13 per cent. Further 70 per cent of India population is still living in rural areas and completely depending on agriculture for their livelihood. Besides, agriculture provides raw material for a large number of industries. Farmers are shifting from low value cereal based cropping system to high value horticulture crops due to higher productivity and assured revenue. Horticultural development had not been a priority in India until recent years. Post 1992, there was consolidation of institutional support and planned allocation of resources for the development of horticulture (Surabhi, 2007). It was in the post-1993 period that a focused attention was given to horticulture development through an enhancement of plan allocation and knowledge-based technology. Despite of this decade being called a "golden revolution" in horticultural production, the productivity of horticultural crops has increased only marginally from 7.5 tonnes per hectare in 1991-92 to 8.4 tonnes per hectare in 2004-05 (NHB, 2005). Then the National Horticulture Mission was launched in 2005-06 by the Government of India with a mandate to promote integrated development in horticulture, to help in coordinating, stimulating and sustaining the production and processing of fruits and vegetables and to establish a sound infrastructure in the field of production, processing and marketing with a focus on post-harvest management to reduce losses.

India is blessed with diverse agro-climatic conditions, which are conducive to the cultivation of different fruits and vegetables almost round the year. Other factors that makes Indian horticulture a promising sector from the angle of global competition, are low import intensities of this sector and reasonably low Labor costs. The main predicament faced by the

farmers growing fruits and vegetables in the India is wide fluctuations in their prices. Fall in prices possess a disincentive for the farmers thereby affecting the aggregate supply. The reduced supply affecting the per capita daily requirement of 300 grams of fruits and vegetables as recommended by Indian Council of Medical Research.

1.2 Objective of the Study

The present study was undertaken with following objectives.

1. To understand world area and production of fruits and vegetables in world and India.
2. To analyze export competitiveness of Fresh Fruits and Vegetables in India.

1.3 Methodology

The study conducted to analyze export competiveness using secondary data. The Data on area, production was taken from various report of the Indian Horticulture Database, published by Horticulture Database 2012-13. Export and import data on quantity and value are obtained from "India Trades" database of CMIE, PC TAS HS data based on THE UNSD COMTRADE Database System and APEDA.

1.4. Analysis

1.4.1 Major Fruits and Vegetable Producing Countries in the World

India is the second largest producer of fruits & vegetables and its share in world production is about 9 percent. India produces 81.29 million tonnes of fruits from area of 69.82 Lakh hectares. Varieties of fruits are grown in India viz. Mango, Banana, Citrus, Guava, Grape, Pineapple and Apple are major fruits. Mango is the most important fruit covering about 35 percent of area and 22 percent of production of total fruits in the country. Banana comes next in the rank. India ranks second in the world in terms of production of fruits but its share in global exports is only one percent. The export earning was Rs. 780.43 Crores in 2001-2002. The major India fruits, having export potential are Mangoes, Grapes, Bananas and Litchis.

India continues to maintain its position in vegetable production next only to China with an annual production of 162.19 million tonnes from 92.05 Lakh hectares having a share of 12.4 percent in the total global production. Potato is most widely grown crop in the country with a

share of 1.22 million hectares in area and 24.08 million tons in production. Brinjal and tomato occupy second position, while onion occupies third position. Other important vegetables grown in the country are peas, beans, cabbage, cauliflower and pumpkin. The major vegetable growing states are Andra Pradesh, Bihar, Himachal Pradesh, Karnataka and Tamil Nadu. Though India is the second largest producer of vegetables, its share in the world export is hardly 1 percent.

Table 1. Major Fruits and Vegetable Producing Countries in the World.

Major Fruits and Vegetable Producing Countries in the World 2012-2013								
	Fruits				Vegetables			
	Country	Area (Lakh ha)	Production (MT)	Yield (T/ha)	Country	Area (Lakh ha)	Production (MT)	Yield (T/ha)
1	China	118.34	1370.67	11.6	China	245.60	5739.35	23.4
2	**India**	**69. 82**	**81.29**	**11.6**	**India**	**92. 05**	**162.19**	**17.6**
3	Brazil	23. 25	383.69	16.5	USA	11. 05	359.48	32.5
4	USA	11. 38	265.49	23.3	Turkey	1. 12	27.8	25
5	Indonesia	7. 97	177.44	22.3	Iran	8. 77	234.86	26.8
	World	**572.65**	**6467.58**	**11. 30**		**589.70**	**11591.79**	**19.7**

Source: FAO Website except for India data (for India data source: India Horticulture Database 2012-13, Ministry of Agriculture).

From the above table it is clear that there exist huge gap. The vast production base offers India tremendous opportunities for export worth Rs. 10,369.96 Cr during 2016-17. Major export destinations are United States, Saudi Arabia, United Kingdom, Netherland, UAE and Japan.

1.4.2 Leading Fruits and Vegetables Producing States in India

Table 2 inferred that Andhra Pradesh is the largest producer of fruits in India with an estimated share of 17.1%, in 2012-13 followed by Maharashtra (12%), Gujarat (10.4%), Tamil Nadu (8.2%), Karnataka (8.1%). Other important fruits producing states are Madhya Pradesh, Uttar Pradesh Bihar, West Bengal and Kerala, Fruits and vegetables contribute more than 30% to value of output from agriculture in states like Himachal Pradesh, Odisha, West Bengal, Jammu and Kashmir, Bihar and Northeast states.

Table 2: Leading Fruits and Vegetables Producing States in India during 2012-13

S.No.	Particulars	Area	Production
1.	**Fruits**	Maharashtra (22%), Andhra Pradesh	Andhra Pradesh (17.1%), Maharashtra

		(13.5%), Karnataka (5.6%), Gujrat (5.5%),	(12%), Gujrat (10. 47%), Tamil Nadu
		Uttar Pradesh (4.7%), Kerala (4. 5%),	(8. 2%), Karnataka (8. 1%), Madhya
		Tamil Nadu (4.4%), Bihar (4.3%), West	Pr adesh (6.7%), Uttar Pr adesh (6.4%),
		Bengal (3.2%), Madhya Pradesh (2.8%),	Bihar (5.2%), West Bengal (3.9%), Kerala
		Others (29.4%)	(3.2%), Others (18.7%)
2.	**Vegetables**	West Bengal (14. 6%), Uttar Pradesh	West Bengal (15. 7%), Uttar Pradesh
		(9.9%), Bihar (9. 4%), Madhya Pr adesh	(12.1%), Bihar (10.1%), Madhya Pradesh
		(6.7%), Andhra Pradesh (7.5%), Gujrat	(7.8%) Andhra Pradesh (7.5%), Gujrat
		(7. 5%), Odisha (7.5%), Maharashtra	(6. 5%), Odisha (5.8%), Maharashtra
		(5.1%), Chhatisgarh (4. 1%), Karnataka	(4.9%), Tamil Nadu (4.9%) Karnataka
		(4.7%), Others (24.6%)	(4.8%), Others (20%)

1.4.3 Production Share of Fruits and Vegetables

The principal types of fruits which are produced in significant values are bananas, Mango, Citrus, oranges, papaya, guava and apple (Table 3). In volume terms domestic production is dominated by banana (32.6%) followed by mango (22.1%), citrus (12.4%), papaya (6.6%), guava (3.9%), gapes (3.1%), Sapota (1.8%). In terms of area mango occupies the first position accounting for 35.8% of total area under fruits in the year 2012-13, followed by citrus (15%), banana (11.1%), apple (4.5%), cashew nut (24%) , onion (10%), cauliflower (30%), green peas (36%).

Table 3: Share of Fruits and Vegetables during 2012-13

S.No.	Particulars	Production Share
1.	**Fruits Cr ops**	Banana (32.6%), Mango (22.10%), Citrus (12.4%), Papaya (6.6%), Guava (3.9%), Apple (2.4%), Pineapple (1.9%), Sapota (1.8%) Grapes (3.1%), Pomegranate (0.9%), Litchi (0.7%), Others (11.5%).
2.	**Vegetables**	Potato (28%), Tomato (11.2%), Onion (10.4%), Peas (2.5%), Brinjal (8.3%), Tapioca (4.5%), Cabbage (5.3%), Cauliflower (4.9%), Okra (3.9%), Sweet potato (0.7%) &Others (20.5%).

1.4.4 Export of Fresh Fruits and Vegetables in India

Though India is major producer of Fruits and Vegetables, its share in the global market is still nearly 1% only, there is increasing acceptance of fruits and vegetables produce form the country. Nearly a third of fruits and vegetables go waste for lack of post harvesting facilities. The annual loss is over 2.0 lakh crore rupees as most of the fruits and vegetables are seasonal and highly perishable. The government admits horticulture needs more attention and has taken some steps over the last few years but not been enough to address wastage. The R&D efforts on reducing the post harvest losses provide a huge platform for the future prospects of horticultural industry.

1.4.5 Export of Fresh Fruits and Vegetables in India

The below table 4 depicts that there is large scope for exports as there is huge requirement for fruits and vegetables. This may be attributed to change in life style, increase in disposable income, change in spending pattern.

Table 4. Export of Fresh Fruits and Vegetables in India (2012-2013 to 2014-2015)

Crops	Years (Quantity in Tonnes)			India's Export (Value)		
	2012-13	2013-14	2014-15	Value in Lakh Rupees	Value in thousand $ US	World's Export (thousand $ US)
Fresh Vegetables	23,43,881	22,91,751	20,19,342	7,00,281	155617.77	5,23,99,634
Fresh Fruits	5,34,619	5,25,224	4,84,373	1,5,93,231	354051.11	3,80,95,130
Total	28,78,500	28,16,975	25,03,715			

Source: Loka Sabha Unstarred question , 11.8.2015

1.4.6 Exports of fresh fruits from India to the world (*Quantity in tonne; value in Rs. lakh)*

Below table 5 provides provides the quantity and value of exports of fresh fruits from India to the world. The export quantity increased by more than four times in the last 15 years and the value of exports by 10 times. The major fruits exported in terms of quantity are mango (53.5 thousand tonnes), grapes (38.9 thousand tonnes), orange (31.5 thousand tonnes), apple (23.2 thousand tonnes), banana (12.8 thousand tonnes), other citrus fruits (11.4 thousand tonnes) and lemon (10.5 thousand tonnes). In value terms grapes and mango exports earn the maximum foreign exchange for India.

Among Vegetables, onion and potato are the most important ones among the fresh vegetables, both in terms of quantity exported and value. Tomato and pumpkin are also among our major fresh vegetables exported to the world but their volume is very low. Brinjal had recently been added to the export list.

Table 5. Exports of fresh fruits & Vegetables

Fruits	Quantity	Value	Vegetables	Quantity	Value
Mango	53480	8961.1	Onion	870216.7	64411.9
Grapes	38898	12643.8	Potato	65996.1	3175.7
Lemon & citrus fruits	21901.7	2280.1	Tomato	7446.1	589.4
Orange	31528.8	3300.7	Peas	2132.7	443.1
Ppapaya	12660	531.2	Pumpkins	2079.9	318.24
Banana	12817.7	1342.8	Beans	1258.6	145.8

1.4.7 Leading F&V export destinations from India

The countries where India's export market share is maximum for fresh fruits and vegetables are presented in Table 6a & Table 6b. In terms of quantity and value, the country has exported highest fruits and vegetables to Bangladesh. Malaysia, United Arab Emirates (UAE), Sri Lanka, Nepal and Indonesia stands next in order. The export was very less to Saudi Arabia, Qatar and Kuwait.

The commodity-wise analysis shows that it is the neighboring countries where maximum share of India's fruits and vegetables are exported. One of our major trading partners for exports of fresh fruits is Bangladesh. The maximum share of exports of apple, grapes, litchi, mango and oranges go to Bangladesh. In vegetables the maximum shares of onion and tomato exports go to Bangladesh.

Table 6a: Leading F&V export destinations from India

Country	2015-16		2016-17		
	Rs. (Lacs)	Quantity	Rs.(Lacs)	Quantity	Rs. (Lacs)

Bangladesh	77,964.61	2,51,384.13	62,384.22	8,47,023.86	97,611.19
Malaysia	41,621.67	2,44,272.70	58,641.91	3,74,480.61	49,523.60
United Arab	24,772.72	1,69,675.48	32,728.03	3,03,706.31	40,098.17
Sri Lanka	25,839.13	1,99,150.44	44,926.73	2,07,526.57	26,425.33
Nepal	13,940.27	70,024.86	17,337.88	1,28,499.11	15,821.58
Indonesia	5,788.98	11,046.00	1,754.65	82,161.82	11,451.29
Philippines	0	29,617.00	7,565.86	49,395.00	10,245.49
Qatar	5,303.42	33,573.87	6,910.57	67,987.40	9,145.81
Kuwait	5,026.99	36,402.36	6,651.77	65,280.98	8,910.67
Saudi Arabia	3,071.93	17,668.34	3,092.03	58,874.29	7,494.50

(Source: DGCIS Annual Export)

Table 6b. Commodity-wise Domestic Exports in comparison to World exports

	Indias export	World export	Major Export Destinations
Tomato	35885.69	5647001.26	Bangladesh, Maldives, Pakistan, UAE
Onion	678.96	330276.34	Canada, Saudi Arabia, UAE
Grapes (Fresh)	90.64	4259.43	Bangladesh, Belgium, UAE, UK, Netherland
Mango	50.28		UAE, UK, Saudi Arabia, Nepal, Kuwait
Banana	48.43	2458.22	UAE, Qatar, UK, Kuwait, Saudi Arabia
Citrus fruits	37.48	526873.27	UK, UAE, USA

Among Vegetables, Brinjal has found the market in UK, Saudi Arabia, the Netherlands and France, with 63.4 percent share of total Brinjal exports going to UK. Among our neighboring countries, Nepal receives bulk of India's exports of cauliflower, potatoes, banana, citrus fruits other than orange and lemon. UAE imports more than 60 per cent of India's exports of papaya, Pineapple, Sapota, Lemon and Pumpkins. Other major exporting countries for India for fresh fruits and vegetables are Malaysia, Singapore and Saudi Arabia.

The projected demand for fruits and vegetables in India would grow exponentially as the economy and agricultural sector is likely to grow at over 8% and about 4% respectively as estimated by the 12th five year plan. While, Global fruit and vegetables consumption increased

by an average of 4.5% per annum between 1999 and 2009. This was higher than the world population growth rate, meaning that the global per capita consumption of fruit and vegetables has also increased.

The list of large exporters of fresh fruits and vegetables starts with the USA. Mexico is 2nd, having overtaken EU in the past decade. Other big exporters are China, Chile, Ecuador and South Africa. In total, the top 10 exporters account for 66% of the world's fresh fruits and vegetables exports. Although India's share in world exports of fruits and vegetables are less than 1.5%, India's exports of fruits and vegetables have grown at a CAGR of 20.61% and 7.21% respectively by value. When India exported its first consignment of grapes to Canada and pomegranates to the US last month, it offered a ray of hope for the otherwise dismal exports scenario of the country. Shipment of fresh fruit has witnessed an increase at a time when India's overall exports have declined.

Fruit exporters said demand for Indian mangoes, grapes, bananas and pomegranates has increased and the country has sent trial shipment of fresh fruit to new markets over the last few months. Officials attribute the uptrend to timely rains that led to a better crop of fruit in 2015-16, and India's adherence to the technical standards laid down by developed countries. Below table shows increase in export of fruits and vegetables between 2.11-122 and 2.15-16.

According to commerce ministry data, export of fresh Bananas in the April- February period of 2015-16 rose 19.6% compared with the full year exports of 2014-15. Similarly, fresh pomegranate consignments in the first 11 months of FY16 were similar to the full-year exports of 2014-15 at $52.37 million.

Grapes topped the fruit export chart for 2014-15 with shipment touching 107.3 thousand tonnes valued at Rs 1,086 crore. Last fiscal, export of grapes from India rose almost 80% year-on-year to close to 2 lakh tonnes. During this period, export of grapes from Nasik nearly doubled to 1.08 lakh tonnes, becoming the largest contributor to the increase (Kirtika Suneja, 2016). "Grape exports increased due to development of new markets in Canada, Australia and Russia along with a rise in production due to adoption of international certification like The Thompson

and Global GAP, which are among the key requirements for exporting grapes to European markets," said Ajay Sahai, director-general of the Federation of Indian Export Organizations.
Indian exports compared to world (Year 2006-07)

Values of export of crops and products during 2006-07 from India and from world during 2006 are presented in below Table. This table shows that India exports worth 2.855 billion US dollars compared to world export value of 113.9 billion US dollars. The exports from India are only 2.5% of total world export value. This is quite low as India produces 10.9% of total world production of fruits, vegetables and other products. This is not at all encouraging as India is the maximum producer of ginger, turmeric and sesame seeds in the world, second largest producer of fruits, vegetables and cotton.

1.5 Constraints of Exports;

a. Higher air freight

Air freight for vegetables and flower export from India to gulf countries and U.K. etc. is very high compared to Kenya, Jordan, Lebanon etc. This is one of the major bottlenecks in increasing the export.

b. Restriction in the export

Many times because of failure of a particular crop and increased local demand the export has to be restricted. This does not allow regular export due to which we loose many foreign markets.

c. Non-availability of suitable varieties

In onion we do not have production of yellow onions which are in demand in European and Japanese markets.

d. No proper packing of the produce

In many vegetables open mesh jute bags are still being used whereas preference is there for open mesh plastic woven bags. The corrugated fibre board boxes, being used at present, also do not have required strength and thus are damaged in transit.

e. No proper space for handling

Cold storage facilities at ports or airports do not exist. Adequate handling space also does not exist. This results in damage to stock.

f. Inadequate research and developmental backup

Not much export oriented R and D programmes are being taken up in vegetables. The quality of the produce is, therefore not uniform as per the requirement of foreign markets. Lot of labour is thus wasted in sorting and grading of the produce.

g. Sub-division & fragmented land holdings – average farm size stands at 1.74 hectares.

h. Low productivity per unit area.

i. Unorganized & weak domestic market base.

j. Lack of post-harvest infrastructure facilities like collection & grading centres, washing & packing facilities, reefer vans, pre-cooling & cold storages, intermediate cold storages, processing units & export house.

k. High interest rates for Agri. Investment as well as Export finance. For eg:- 4 – 6% abroad, whereas in India it is about 16% p.a.

l. Unfavorable tax structure in agriculture and food sector. eg:-

Phillipines & Indonesia (all levies)	-	10%
Netherlands & Finland (all levies)	-	14%
U.K (all levies)	-	15%
China & Ireland (all levies)	-	17%
India (all levies)	-	25%

m. No clear cut & consistent export policy.

n. APMC Cess adds to the cost of production

1.6 Strategies for improvement:

- Export policy should be long-term and consistent. Frequent changes in export policy should be avoided in view of likely adverse effect on foreign markets growers.
- At the times of shortage and rise in domestic prices, we must still export a minimum quantity to retain export market. Export markets must be preserved even in periods of low international prices by giving cash incentive.
- We must make/arrange for enough quality control measures and also diversity export, both in terms of commodities and countries.
- There should be close linkage between exporters and producers of exportable surpluses so that: (a) reasonable prices to the producers and quality of the products to the foreign market

are assured, (b) growers get due share in profit and (c) the exporter has minimum effect on availability and prices in the international market.

- Our export policy should be oriented towards generating more employment, especially amongst small and marginal farmers, tribals and agricultural labour. Contract cultivation of high value exportable crops should be introduced through small and marginal farmers.
- New market potential should be identified by survey and suitable varieties/qualities of particular crops should be developed by research.
- Ventilated and temperature controlled transportation systems should be introduced and highest priority for loading of perishable items should be given.
- Modern storage at packing centre/port should be Developed, having tier system of storage for proper air circulation, which could maintain temperature and humidity. For very costly items, even cold storage facilities should be developed.

1.7 Conclusion:

India has though acquired a position of importance as a supplier for vegetables in the foreign market; it has very good scope to strengthen the position further due to proper agro climatic condition for production of all types of vegetables throughout the year in one or other part of the country. With the anticipated production of 85 million tons of fruits and 160 million tons of vegetables, it is estimated that there will be surplus to the tune of approx 3-4 million tons of fruits and approximately 7-8 million tons of vegetables at the end of 2011-12, India has exported only 0.32 million tons of fruits and 1.6 million tons of vegetables during 2006-07.This shows there is an ample scope of accelerating the exports of fruits and vegetables. There is however need to have proper planning for export oriented production at a competitive price to remains in the market. There is also a need to survey foreign markets for quality and varietal requirement and carry out research and development work to evolve suitable varieties and popularize production of such crop and meets export needs.

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