

A CASE STUDY

Export of processed fruits and vegetables in India with special reference to Karnataka

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ABSTRACT

Agro-processing can be defined as set of techno-economic activities carried out for conservation and handling of agricultural produce and to make it usable as food, feed, fibre, fuel or industrial raw material. Presently India is focusing mainly on agro-processing, as the second 'Green Revolution' will be centered on the concept of 'farm to plate'. The horticulture mission targets to increase the production of fruits and vegetables to 260 MT from the current 140 MT through several interventions. Karnataka ranks 5th in India, in terms of total area under horticulture and 8th in terms of total horticultural production according for 5.6 per cent of national production. It is the largest producer of coffee and cocoa in the country and second largest in production of flowers and grapes. It is also the third largest producer of plantation crops in India accounting for 11.6 per cent of the national production and fourth largest producer of spices, accounting for 8.6 per cent of the national production 5th largest producer of fruits in the country (Krishnadas, 2010). It is also the fifth largest producer of fruit accounting for 7.2 per cent of national production. In terms of vegetables, it is the 8th largest producer in the country accounting for 4 per cent of the total produce. International Flower Auction Bangalore Ltd. (IFAB) – home to the first and largest international flower auction company in Asia.

KEY WORDS : Processing, Growth rate, Floriculture

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Agro-processing can be defined as set of techno-economic activities carried out for conservation and handling of agricultural produce and to make it usable as food, feed, fibre, fuel or industrial raw material. India is the second largest producer of food next to China and is booming with a growth rate of 3.20 per cent a year. Food processing is

a larger sector that covers activities such as agriculture, horticulture, plantation, animal husbandry and fisheries. (Acharya and Agarwal, 1999 and Subbanarasaiah, 1991). It has the potential of being the biggest with the food and agricultural sector contributing around 18 per cent of the Gross domestic product (GDP). India is one of the largest producers of almost all the agricultural products. The food processing sector is ranked fifth in terms of production, consumption, export and expected growth in India.

Indian agriculture has undergone major transformation from food scarcity to food security. It has resulted in market glut, reduction in prices and high post-harvest losses. There is a 25-35 per cent post-harvest loss of agricultural produce before reaching ultimate consumer. The wastage of fruits and vegetables in India is equivalent to the consumption of that in UK. The estimated post-harvest losses in the case of non-

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perishable items, semi – perishable items and perishable items are 5-15 per cent, 20-30 per cent and 30-50 per cent, respectively. The total loss of food in India is around Rs. 80,000 crores per annum.

Agro-processing is to provide longer shelf-life, maintain/improve quality and enhance form, space and time utility of the produce for food. So, employment potential in post-harvest and value addition sector is considered to be very high. Now-a-days agro-processing is regarded as the ‘sunrise sector of the Indian economy’ in view of its large potential for growth and likely socio-economic impact specifically on employment and income generation.

Food processing industry in India is having huge potential for uplifting agricultural economy, creation of large scale processed food manufacturing and food chain facilities and the resultant generation of employment and export earnings. Presently India is focusing mainly on agro-processing, as the second ‘Green Revolution’ will be centered on the concept of ‘farm to plate’. The horticulture mission targets to increase the production of fruits and vegetables to 260 MT from the current 140 MT through several interventions. Properly developed agro-processing sector can make India a major player at the global level for marketing and supply of processed food, feed and a wide range of other plant and animal products.

Global scenario :

The global processed food industry is valued at US \$ 3.2 trillion and accounts for over 3/4th of global food sales. Despite the large size of the industry, only 6 per cent of the processed food is traded the world over as compared to bulk agricultural commodities where 16 per cent of produce is traded. Growth of the sector has been the highest in developed economies, especially across western Europe, north America, Japan and Australia. USA is the single largest consumer of processed food and accounts for 31per cent of global sales according to Chengappa (2004).

The food processing sector has seen substantial growth in developing economies with increase in GDP, per capita income and the resultant changes in lifestyle. Organized retailing and availability of better processing technologies too have contributed to the accelerated growth of the sector.

Indian scenario :

With GDP contribution of 15 per cent, agriculture is a key economic driver in India. It is the second-largest producer of food in the world and spends more than a quarter of its expenditure on food and related items. Agriculture services attracted foreign direct investment (FDI) worth US\$1440 million (INR 69,124.8 million) between April, 2000 to January, 2012.

Indian food industry is estimated to grow from the present US\$181 billion (INR 8688 billion) to US\$318 billion

(INR 15264 billion) by 2020. The food processing sector in India has potential of attracting US\$33 billion (INR1, 584 billion) of investments in 10 years.

Agriculture and food processing: backbone of Karnataka’s economy :

Karnataka has over 64 per cent of its total geographical area under agriculture cultivation. Largest spices, aromatic, medicinal crops, tropical fruits producing state, second-largest milk producing state, third and fourth largest producer of sugar and sugarcane, respectively (Sujatha and Eswara, 2006). Karnataka accounts for 70 per cent of coffee, 8.4 per cent of total fruits and 6.2 per cent of total vegetables produced in the country. Major producer for maize, coarse cereals, sugarcane, pulses and sunflower in the country. It is leader in horticultural products and spices. It accounts for over 20 per cent of floriculture production in India. One of the largest producers of cashewnut in India accounting for 8.5 per cent of national production, 320 km coastline yields annual marine production of 425,000 MT (Velavan, 2004). Exports in coffee have increased from US\$ 147 million (INR 7060 million) in 2004-05 to US\$ 201 million (INR 9650 million) in 2009-10. Exports in marine products and spices grew by CAGR of 43 per cent and 29 per cent, respectively between 2004-05 and 2009-10.

Karnataka’s share of national produce	National rankings
Plantation crops	Coffee (1 st), Areca nut (1 st),Cocoa (1 st), Coconut (3 rd)
Fruits	Sapota (1 st), Grape (2 nd), Pomegranate (2 nd), Mango (3 rd), Papaya (3 rd), Pineapple (3 rd)

Karnataka ranks 5th in India, in terms of total area under horticulture and 8th in terms of total horticultural production accounting for 5.6 per cent of national production (Deshmukh, 2011). It is the largest producer of coffee and cocoa in the country. Karnataka is second largest in production of flowers and second largest producer of grapes. It is also the third largest producer of plantation crops in India accounting for 11.6 per cent of the national production, fourth largest producer of spices, accounting for 8.6 per cent of the national production, 5th largest producer of fruits in the country (Babu *et al.*, 2013). Karnataka has the second largest production of flowers (loose) in the country accounting for 20 per cent of total production. It is also the fifth largest producer of fruit accounting for 7.2 per cent of national production. In terms of vegetables, it is the 8th largest producer in the country accounting for 4 per cent of the total produce. Karnataka is also the largest producer of coffee in the country. International Flower Auction Bangalore Ltd. (IFAB) – home to the first and largest international flower auction company in Asia. The study was conducted to study the extent of horticulture crops

processed and to study the extent of export of processed fruits and vegetables.

METHODOLOGY

The present study is based on secondary data. Compound growth rates were calculated to measure the growth rate of export of fruits and vegetables. For this, data were collected from the official website of APEDA from the year 1987-88 to 2013-14. Production trends of different horticulture crops were calculated using the compound growth rate technique. The share of different countries in processed fruits and vegetables were calculated using the tabular technique, for which data were collected from the agri-exchange website.

ANALYSIS AND DISCUSSION

From the analysis, it is revealed that the export of processed fruits and vegetables is increasing significantly. The export of processed fruits and vegetables was highest during the year 1997-98 *i.e.* 28724.82 million tones. But the export value for 2013-14 is projected to be 1,04,932.46 lakh rupees (Table 1). The reason behind this is due to increasing the demand for such items. Fruits and vegetables are seasonal in production and demanded throughout the year.

Table 2 shows the top five countries which have major share in export of processed fruits and vegetables in the world. The table depicted that among different countries, United States ranks first (14.86 %) in export of processed fruits and vegetables followed by Saudi Arabia (12.15%), United

Table 1 : Export of processed fruits and vegetables in last few decades in India

Sr. No.	Year	Export of processed fruits and vegetables	
		Quantity(in MT)	Value (Rs. in Lac)
1.	1987-88	16884.06	1524.21
2.	1997-98	28724.82	8134.61
3.	2007-08	184411.7	71336.83
4.	2008-09	195383.3	88514.96
5.	2009-10	223375.5	940.4.04
6.	2010-11	199868.4	99704.05
7.	2011-12	274807.1	157759.8
8.	2012-13	269217.3	173305.5
9.	2013-14*	135151.99	104932.46

Note: * Export up to April-September

Table 2 : Export of processed fruits and vegetables to top five countries

Sr. No.	Country	Percentage
1.	United States	14.86
2.	Saudi Arabia	12.15
3.	United Kingdom	12.12
4.	Netherlands	8.83
5.	United Arab Emirates	7.01
6.	Other countries	45.03
	Total	100

Table 3 : Per cent gain in share of export of processed product by different countries

Countries	Per cent
India	1.17
Thailand	1.19
Belgium	4.35
Brazil	4.50
Germany	6.09
France	7.70
Netherlands	7.91
USA	10.57
Others	56.52

Table 4 : Production trends of horticulture crops in Karnataka from (2005-2009)

Sr. No.	Crops	CGR (in per cent)
1.	Fruits	6.29
2.	Vegetables	13.70
3.	Flowers	7.90
4.	Aromatic and medicinal plants	29.71
5.	Spices	2.45

Table 5 : Status of integrated cold chain projects approved by Ministry of Food Processing industries in Karnataka. 2009-2010 to 2011-12

State	Year of approval	No. of projects	Project cost	Grant amount
Karnataka	2011-12	1	1400	336.24
India		28	61887.97	20005.21

Table 6 : Financial assistance provided by Union government for food processing sector in Karnataka 2009-2010 to 2012-13

Schemes	2009-10	2010-11	2011-12	2012-13
Schemes for infrastructure development	200	796	262.063	Nil
Technology up gradation / establishment / modernization of food processing industries	269.55	377.79	896.2926	59.9534
Schemes for quality assurance, codex standards and research and development	24.35	-	28.25	-
Schemes for human resources development	35.25	68.125	46.6913	4.50

Kingdom (12.12 %), Netherlands (8.83%), United Arab Emirates (7.01 %) and other countries (45.03 %). So, establishing the good trade relations with these countries is most important. In United States people are mostly consuming the processed foods rather than consuming them indirectly.

Table 3 shows the per cent gain in share of export of processed by different countries. In this table it is revealed that the USA gained about 10.57 per cent, followed by Netherlands 7.91 per cent, France 7.70 per cent, Germany 6.09 per cent, Brazil 4.50 per cent, Belgium 4.35 per cent, Thailand 1.19 per cent, India 1.17 per cent and others 56.52 per cent.

In Table 4 shows the production trends of horticulture crops in Karnataka. The production of fruits in Karnataka is about 6.29 per cent per annum. Vegetables production is about 13.70 per cent and flowers about 7.90 per cent per annum. Aromatic and plantation plants production is about 29.71 per cent per annum. Production of spices is about 2.45 per cent per annum. More opportunities have to be created by the government to increase the fruits production in state. Since fruit are annual yielding crops, farmers have to wait for returns so they don't show interest in growing fruit crops. Goswami and Singh (2000); Ashturker and Deole (1985); Garg and Misra (1996) and Goswami (1991) have also made observations related to the present investigation.

Conclusion :

Agro-processing can be defined as set of techno-economic activities carried out for conservation and handling of agricultural produce and to make it usable as food, feed, fibre, fuel or industrial raw material. Presently India is focusing mainly on agro-processing, as the second 'Green revolution'

will be centered on the concept of 'farm to plate'. The horticulture mission targets to increase the production of fruits and vegetables to 260 MT from the current 140 MT through several interventions. Karnataka has over 64 per cent of its total geographical area under agriculture cultivation. Largest spices, aromatic, medicinal crops, tropical fruits producing state, second-largest milk producing state, third and fourth largest producer of sugar and sugarcane, respectively. Karnataka accounts for 70 per cent of coffee, 8.4 per cent of total fruits and 6.2 per cent of total vegetables produced in the country.

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