

PRESENT STATUS OF FRUIT PULP AND BEVERAGE INDUSTRY IN GUJARAT STATE

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ABSTRACT

The food industry in India is growing at a fast pace, amongst these, the agro processing units are the major contributors. This paper displays the technical survey of the fruit pulp and beverage processing industry in Gujarat, India. The data presented here suggests about the region wise presence of industry, scale of operation of the industry, man power and employment information in the industries, type of constraints the industry is facing. The season and the type of fruits being processed to manufacture the pulp and beverages are also surveyed and presented in the data.

Keywords: fruit industry, agro processing, gujarat, mango, pulp, beverage

INTRODUCTION

India is the world's second largest producer of fruits and vegetables. The total production of fruits in India is over 86.2 million tonnes out of which Gujarat contributes to around 8.0 million tones. This State has achieved considerable growth rate in horticulture during last five years, the area & production of horticulture crops were 3.52 lakh ha & 69.85 lakh tonnes in 2009-10 which increased up to 3.70 lakh ha & 80.02 lakh tonnes respectively in 2014-15 (GOI, 2016). The major fruits produced in Gujarat are Mango, Guava, Chiku, Citrus fruits, Ber, Banana, Guava, Pomegranate, Strawberry, Papaya, Custard apple, Anola, Cashew nut and Coconut.

Presently, the processing of fruits is estimated to be around 2.5% of the total production in the country (Chauhan *et al.*, 2016). The major processed items in this segment are fruit pulps and juices, fruit based ready-to-serve beverages, canned fruits and vegetables, jams, squashes, pickles, chutneys and dehydrated vegetables. Products that have growing demand especially in the Middle East countries include pickles, chutneys, fruit pulps, canned fruits, concentrated pulps and juices and frozen fruits.

OBJECTIVES

- (a) To know the geographical distribution of fruit pulp and beverage industries in Gujarat state
- (b) To know the Type of industry manufacturing fruit pulp and beverages in Gujarat state
- (c) To know the human resource employed in the fruit pulp and beverages Industries
- (d) To know the proportion of Fruit pulp/beverages manufactured in Gujarat State
- (e) To know the types of fruit and procurement seasons for manufacture of fruit pulp and beverages

METHODOLOGY

The questionnaire form including the questions for recording the minute technical details about the industry was designed. Twenty four fruit pulp and beverage manufacturing industries all over the Gujarat state, were visited and surveyed to assess the present status of fruit pulp and beverage processing industries, challenges faced by the industry and opportunities present, identifying technological gap for sustainability of this sector and to suggest research priorities for new technology development for further growth of the sector.

RESULTS AND DISCUSSION

The information obtained by surveying the industries were critically analyzed to get clear picture about the present status of the industry. The details about the industry are discussed here as under.

Regional Classification of the Industry

The maximum pulp & beverages industries are situated in South Gujarat region i.e. 47 % of total in Gujarat, followed by Saurashtra Region (33%) and Central Gujarat (18%). The major reason for the maximum industries in South Gujarat might be the availability of different varieties of fruits produced in this region as well as from nearby areas of Maharashtra.

Table 1: Type of industry manufacturing fruit pulp and beverages in Gujarat state

Sr. No.	Type of industry (Based on investment made in ₹)	No. of units	% of units
1	Cottage (1 - 5,00,000)	04	17
2	Micro (5,00,000 - 25,00,000)	03	13
3	Small (25,00,000 - 5,00,00,000)	12	50
4	Medium (5,00,00,000 - 10,00,00,000)	02	08
5	Large (greater than 10,00,00,000)	03	13

Scale of Operation

As depicted in Table 1, the industries are categorized based upon the total investment made. Approximately 50% of the total industry in the target sector are small scale industries having total investment ranging between INR 25 lakh to 5 crore, while cottage, micro, medium and large are 17, 13, 8 and 13%, respectively. The annual sales turnover of the companies is ranging from INR 1.5 lakh to 50 crore.

Human Resource/ Employment Status

The human resource employed in the fruit pulp and beverage processing sector of Gujarat is classified as shown in Table 2. This sector mainly deals with the seasonal fruits and it's processing, so the number of full time employees are very less as compared to seasonal man power recruited by the industry.

Approx. 63% of the units are having less than 20 full time/permanent employees while 42% of the units hires more than 200 employees as a temporary/seasonal man

power (Table 2). It was observed that, the cottage and micro scale industries have 1 to 3 full time employees excluding the owners. Approx. 58% of the small scale industries has less than 20 full time employees while remaining 42% of the small scale industries have more than 20 full time employees. The small scale industries dealing with pickles and other products in addition to fruit pulp and beverages have hired more number of full time employees as compared to industries dealing with only pulp/beverages.

Table 2: Human resource employed in the fruit pulp and beverages Industries

Sr. No.	No. of Employees	Full time employee		Seasonal man power	
		No. of units	% of units	No. of units	% of units
1	1 to 20	15	63	08	33
2	21 to 50	02	08	01	04
3	51 to 100	05	21	05	21
4	101 to 200	02	08	0	0
5	More than 200	0	0	10	42

Product Category

The product profile and installed plant capacity for the pulp and beverage industry is detailed in the table 3. Based upon installed capacity, among all types of fruit pulp and beverages being manufactured in Gujarat, major share is of pulp (Approx. 95.3%). Amongst the pulp, mango pulp (92%) is the major item followed by guava pulp.

Fruit Procurement Status

The table 4 shows the information about the type of fruits being procured with the details of the duration of procurement and approx. quantity of fruits being procured. It is observed that, except papaya, all the fruits are available for a short period of only 2 to 3 months in a year. The short procurement period leads to sudden increase in the man power requirement to cater the very high processing needs. The plants are generally running for 3 months in a year, which leads to compulsion of high capacity plant installation to cater the demand for whole year and to run the plant in profit.

Table 3: Proportion of fruit pulp/beverages manufactured in Gujarat State

Sr. No.	Product type		No. of units	% of units	Installed plant capacity (TPD)	% of Installed plant capacity
1	Pulp	Mango	20	83	868.00	92.163
2		Guava	02	04	0.03	3.189
3		Black-jamun	01	08	0.03	0.011
4		Pineapple	01	04	0.10	0.008
5		Pomegranate	01	04	0.08	0.004
6		Grape	01	04	0.04	0.003
7		Strawberry	01	04	0.01	0.002
8		Star Fruit	01	04	0.02	0.001
9	Crush	Guava	02	04	3.00	2.973
10		Mango	01	08	28.00	0.319
11		Orange	01	04	3.00	0.319
12		Papaya	01	04	3.00	0.319
13		Pineapple	01	04	3.00	0.319
14		Strawberry	01	04	3.00	0.319
15	Juice	Fruit Juice	01	04	0.50	0.053

The highest procured/processed fruit commodity is mango, which is generally procured during the months of May-June, but some industries also procure different varieties from different regions during the months of March to July. The major varieties of mango being processed are Alphanso and Kesar. The mango procurement by different

industries ranges from 300kg to 150MT per day with an average of approx. 46 MT/day, while seasonal average is approx. 2220 MT of mangoes. The second largest fruit being processed is papaya (average 1200 MT/season) followed by guava (average 320 MT/season).

Table 4: Types of fruit and procurement seasons for manufacture of fruit pulp and beverages

Sr. No.	Type of fruit	Duration of procurement	Approx. quantity per day (MT)		Approx. quantity per season (MT)	
			Average	Range	Average	Range
1	Mango	March-July	46.22	0.3-150	2220	11-10000
2	Grape	Feb-March	0.02	0-0.04	1	1
3	Guava	Dec, Jan, Feb, May, Aug	8.01	0.04-30	321	2-1200
4	Black-jamun	May	0.08	0-1	2	2
5	Pineapple	Dec-Jan	0.28	0.06-0.5	14	3--25
6	Pomegranate	Sept-Oct	0.04	0-0.08	2	2
7	Star fruit	Jan, Feb, Jun, July	0.02	0-0.04	2	2
8	Strawberry	Jan-April	0.51	0.02-1	51	2-100
9	Orange	Dec-Jan	0.5	0-1	25	25
10	Papaya	Whole Year	4	0-8	1200	1200

Table 5: Major constraints faced by the fruit pulp and beverage industry in Gujarat state

Sr. No.	Constraint faced	No. of units	% of units
1	Seasonal Man Power Shortage	20	83
2	Government Taxes	22	92
3	Government Certification Procedures	15	63
4	Raw material availability	02	08
5	Raw material quality/ defects	03	13
6	Product quality/ defects	0	0

Constraints faced by the Industry

As discussed earlier, the fruit processing sector is seasonal and during the peak season, the man power requirement greatly increases. The industry is in the developing stage and it is facing some major problems like Man power shortage, complications in governmental certification procedures and government taxation problems. As shown in table 5, the 92% Units are having problems with Government taxation system, the systems are complicated and less transparent according to them. The penalties are high and guidance and support is least from the government side. The raw material availability is also a problem for 8% of the industries, while no industries showed the problem in the product quality related constraints.

CONCLUSION

The majority of the fruit pulp and beverages manufacturing industries in Gujarat are located in two regions mainly South Gujarat and Saurashtra. Approx. 50 % of the industries are small scale, while cottage and large scale industries are 17 and 13%, respectively. Approx. 63% of the industries have less than 20 employees on permanent basis

while 21% industries have 51 to 100 employee on permanent basis. More than 200 employees on temporary/seasonal basis are being recruited by 42% of the industries. Various type of fruits, like mango, guava, grape, black-jamun, pineapple, pomegranate, star fruit, papaya, orange, strawberry etc., are being processed for manufacturing of pulps, crushes and juices. Approx. 56% industries are manufacturing mango pulp, which accounts around 92% of the total installed plant capacity. Mangoes are procured during March-July and the quantity is ranging from 11-10000 MT per season with an average of 2220 MT/season. Approx. 92% industries showed the government taxes as a biggest constraint to the industry, while 83% industries faces problem of seasonal man power shortage. Looking to the overall scenario, the fruit pulp processing industry needs to explore processing of various fruits in addition to Mangoes. This can run the plant for more seasons during the year, so the profitability as well as the seasonal man power constraints can be tackled.

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REFERENCES

Chauhan, G. G., Naik, R. M. and Patel, G. R. (2016). Factors Associated With The Success-Failure Of Cashew Nut Growers And Processing Enterprise. *Guj. J. Ext. Edu.*, 27(1): 82-85

GOI (2016) Horticulture. Statistical Year Book India. P.p. 178. Govt. of India Publication

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