



## Prospects of Fruit Processing Industry in Chittoor District of Andhra Pradesh

**Dr Kota Sreenivasa Murthy**

Principal, Seshachala Institute of Management Studies,  
PUTTUR – 517 583, Chittoor District A.P

### ABSTRACT

*The food processing sector is of the great importance to India's development, for establishes a vital linkage and synergy between the two pillars of the economy-Industry and Agriculture. The enormous growth potential of this sector can be understood from the fact that food production in the country is expected to double in the next 10 years, and the consumption of value-added food products will also correspondingly grow. The growth of this industry will bring immense benefits to the economy, raising agricultural yields, enhancing productivity, creating employment and raising life-standards of a large number of people across the country, especially those in rural areas. This paper attempts to assess their future prospects in Chittoor District of Andhra Pradesh.*

**KEYWORDS : Fruit Processing, mango pulp industry, value addition and Investment opportunities**

### Introduction

The Chittoor district is second largest Mango growing region in Andhra Pradesh, The market is very prone to fluctuations both in prices and production. The Fruit Processing industry also faces lot of fluctuations in production and marketing. Although a number of studies have been conducted, quite a large number of seminars and conferences being organized, volumes of information published on the marketing of mango production yet due to wide fluctuations in production and price, most of the studies have not been able to provide time-tested market solutions. Education, levels of development and enterprising abilities of mandi-owner-cum-traders shake the market efficiency operations. Some issues are region-specific and area-specific. Mango being a tropical crop it is grown in limited agro climate zone/region. On the other, natural conditions, market accessibility, infrastructural and location variations show marked advantages or disadvantages because of the perishable nature of mango produce. In this context, location specific or district level studies focus on the problem more effectively than state or country-wide studies. Though Chittoor district is the second largest mango producing centre in Andhra Pradesh, there is no comprehensive study of the Fruit Processing Industry in Chittoor District. However, there is an immense opportunity for the establishment of fruit processing industry in the district.

### Outlook of Fruit Processing Industry in Chittoor District

The State of Andhra Pradesh ranks Second in the Country in Fruit Production and the Mango Production alone is 31,64,172 M.Ts and the Production of Mango Pulp is about One Lakh Fifty thousand Tons mostly produced in Chittoor District only. There are about 53 Fruit Processing Units functioning in the District and are developed in to a cluster.

90% of the Mango Pulp produced in the District is being Exported mainly to the Gulf countries like Kuwait, Saudi, Dubai etc., and also to the European Countries earning Crores of Rupees as valuable foreign exchange to the country. In addition, the domestic consumption of Pulp as Fruit Juices, Jams etc., has been increasing steadily. The Government gets Crores of Rupees by way of Excise Duty and other taxes. Thus the industry's contribution to the nation's economy is considerable.

The farmer is immensely benefited by selling his Mango produce directly to the Factories.

- By avoiding the middle man the farmer gets correct weightments for his produce.
- He gets the actual market price for his produce and prompt payment. Thus many produce is becoming a major source of income to the small and marginal farmers, in this District.
- The factories in Chittoor District procure Mangoes not only from the District but also from Kodur, Rajampet and Rayachoti areas in the neighbouring Kadapa District and also from Krishna District. Thus Farmers of other districts in Andhra Pradesh are also benefited.

Apart from the farmers, nearly 20,000 agricultural labourers are working in the Industry during the Season, that too in the summer months, and thus earn their livelihood. Thus the Fruit Processing Industries play an important role in the development of the State and the Country as a whole.

### Prospects of Fruit processing Industry

As pointed out several firms, Chittoor district is one of the few major mango growing districts in the entire State. There is immense scope for establishing more units in the district in the years to come, as there are some real advantages. By the fruit processing industry in the district is not free from problems as already noted. To recall them: lack of working capital, seasonality of the production, highly seasonal operations of the units, inadequate effort to enhance product range and explore domestic markets, lack of cost optimization effort and the like. Therefore, it is necessary to probe further in to the various problems and visualize future prospects of the industry in the district

### Investment Opportunities in Chittoor District

The following factors are favourable to attract entrepreneurs for establishing fruit processing units.

1. Existence of a fairly mature and developed fruit processing cluster, in Chittoor district comprising 53 enterprises, predominantly SMEs, engaged in processing tropical fruits and catering to both domestic and export markets.
2. Easy access to a very large and diverse raw materials base spreading across Chittoor, Kadapa Anantapur and Nellore districts of Andhra Pradesh. All these districts are contiguous, and a variety of tropical fruits (Mango, Papaya, Guava, Pomegranate, Lemon, Banana, Water Melon), vegetables (Tomato, Beans, Okra, Brinjal), tamarind and poultry eggs are available in different seasons within a distance ranging from 5-200 km. Kolar district of Karnataka and North Arcot, Krishnagiri and Dharmapuri districts of Tamilnadu have similar range of products which can be processed.
3. Presence of a large number of service provider's viz. raw materials suppliers, marketing firms, logistics providers and skilled labour.
4. Proximity to major consumption markets viz., Bengaluru (154km.), Chennai (147 km.), and Tirupathi (100 km.) For various end products.
5. Proximity to sea ports at Chennai and Krishnapatnam, international airports at Chennai and Bangalore facilitating export of finished products and import of inputs and capital goods.
6. Encouraging state and central Government policies on fruit processing industries.
7. Incentives offered by Government in terms of minimum demand charges for electric power, market cess, duty draw back etc., for fruit processing enterprises set up in Chittoor district under Agri Export Zone (AEZ) and other schemes

**Major Interventions**

The major interventions focused on the key issues involved in the development of the fruit processing clusters in Chittoor district are explained below

**1. Improved Raw Material Handling**

The extent of wastage of raw fruit due to unscientific handling at farmer, trader and processor levels was high as 8 per cent. With a view to minimizing this, three interventions were made:

1. Usage of perforate plastic crates, of 25 kg capacity, for carrying raw fruit.
2. Construction of well-ventilated and scientifically designed intermediate storage sheds for fruit ripening.
3. Usage of tractor-mounted mobile elevators for harvesting fruit from mango trees.

The first two interventions were well received and are widely used. A suitable technology has been identified for the third case. These interventions contributed positively in containing raw material wasted to around 5 per cent. The implementation of the interventions was facilitated by part of financial assistance from National Horticultural Board for propagating the uses of plastic crates and the APEDA extended financial support to test and pilot the fruit harvesting technology intervention.

**2. Process improvement**

Process improvements by small fruit enterprises in the cluster were vital to ensure hygiene and improve product quality. Three major interventions were initiated towards this end:

1. Mechanical washing of fruit and conveying of the slices to the pulper.
2. Usage of pasteurizer vis-à-vis open steam jacketed kettle
3. Improving the can-sterilization system and use of rotary continuous can filling machine.

**3. Quality Assurance**

As the end products from the fruit processing cluster in the district are extended for human consumption and are exported, it is necessary that they conform to (Hazard Analysis Critical Control Point) the HACCP protocols. This HACCP certification was extended by the APEDA. It is very essential for export of the products as per international standard to foreign countries.

**Future Direction**

To further strengthen the future growth of the fruit processing cluster, the following interventions are suggested.

**1. Protecting and Promoting Products Uniqueness**

Totapuri mango pulp from Chittoor enjoys a reputation and consumer preference in export markets. The cluster enterprises therefore feel the need to protect Chittoor Totapuri Mango Pulp.

**2. Organization Trade and Exposure Visit**

By exposing the fruit processing cluster forms to trade channels and consumers in major importing countries, direct exports could be enhanced. Similarly, visits to leading fruit processing clusters abroad will help reinforce their belief in cluster dynamics and enable them to commit to fruit processing cluster development.

**3. Creation of Market intelligence Data Base**

There is low awareness in the enterprises about overseas markets. It is therefore necessary to create a comprehensive market intelligence base in the Centre for Processed Foods (CFPF) for use by the fruit processing industry.

**4. Common Facility for Solid Waste Management**

Safe disposal of solid waste generated in the fruit processing industry, which amounts to around 2.14 lakh tons per season continues to be a major challenge. Setting up a common facility to use the waste for the production of cattle feed. Bio-fertilizer and fuel briquettes can be encouraged.

**Policy necessary for the Prospects of Fruit Processing Sector in Chittoor district**

The following steps should be taken by the Government of Andhra Pradesh for the rapid development of the fruit processing industry.

- Varieties of fruits fit for processing should be developed. The processors should enter in to contract with farmers and procure the products at specified prices.
- The Ministry of Food Processing Industry is operating a scheme to strengthen backward linkages through promotion of contract farming.
- The distance from factory to ports/sea ports is long and products may not be dispatched for export immediately after reaching the ports/sea ports. Refrigerated vans for taking products from processing units to ports/sea ports and storage facilities need upgrading.
- The possibility needs to be explored for collaboration with multinationals, to compete better in the world market.
- Efforts should be made to improve capacity utilization, using multipurpose processing plants, installing flexible machinery that can process a range of products is vital.
- Research and development and technology transfer should be encouraged by giving special incentives by providing better quality material and improving productivity.
- The Government of Andhra Pradesh may formulate a separate policy for Fruit Processing Industry.

The fruit processing industry in Chittoor district has not been given due recognition in Andhra Pradesh especially for credit assistance and marketing. Power, inadequate raw materials, scarcity of skilled labour force, lack of facilities for effective waste utilization and other problems hinder their future prospects. In keeping with the recent change in the economic policy it is essential that adequate attention is diverted to increase improved fruit processing technology, recycling of fruit wastes and bank financing towards better research and development in processing and waste utilization techniques. Given the proper development initiatives, the fruit processing industry in Chittoor district would become the leading rural development component with linkage with organized industry besides being export-oriented. If attention is laid on secondary and tertiary processing and better value addition, their prospects in international trade is bound to improve sustainably. The following table 1 clearly shows the area of production, utilization of fruits and capacity of plant utilization of fruit processing industry in Chittoor district.

**Table Showing the Mango Fruit Production in Chittoor District**

Year	Mango				Utilization of Fruits By Industry		Average Capacity Utilized by units
	Area (Ha)	Growth Rate	Production (M.Ts)	Growth Rate	(M.Ts)	Per Centage	
2006-07	45077	-	360161	-	144064	45	60 %
2007-08	45559	1.07	368912	2.43	177077	48	65 %
2008-09	47834	5.00	382672	3.73	198989	52	70 %
2009-10	52721	10.22	421768	10.22	227754	54	72 %
2010-11	48913	-7.22	391304	-7.22	215217	55	75 %
2011-12	59155	20.94	391304	0	234782	60	80 %
2012-13	46250	-21.82	425600	8.77	263872	62	85 %
2013-14	48950	5.84	532500	25.11	340800	64	90 %
2014-15	53401	9.09	572500	26.30	372125	65	95 %

Source: - DIC, Chittoor & Field Study

From the table it is obvious that from the year 2007 to 2015 there has been a steady increase in the area of mango production. Similarly, the growth rate also has increased from 1.07 to 9.09 per cent over the years. The production of mango fruits in million tones has shown remarkable increase from 3.60 lakhs of million tones to 5.70 lakhs of million tonnes except for one or two years when it declined owing to drought and fluctuating climatic conditions.

The fruit processing industry in the district has increased utilization of fruits from 45 per cent to only 65 per cent, though the average capacity utilized by the units remarkably increased from 60 per cent to 95 per cent. Therefore, there is huge scope for utilization of fruits by the industry if necessary environment is provided by the Government and Ministry of Food Processing Industry. A number of new fruit processing units may be encouraged as there is vast resource of mango fruit production to be supplied to the new units. Of course starting new units would surely generate employment to the needy rural folk. This automatically creates scope for enhancement of district revenue and foreign exchange reserve. The details of area and production growth rate of mango, utilization of fruits and utilization of plant capacity of the units are shown by means of graphs

### Conclusion

In view of the facts mentioned above one feels that the fruit processing industry needs a lot of encouragement from the District Industrial Centre, Ministry of Food Processing Industry, the APEDA and Horticultural Department of Andhra Pradesh. The entrepreneurs need financial assistance by way of subsidized loans from the financial institutions such as State Financial Corporation and commercial banks for fixed and working capital requirements of the industry, subsidized power from the Andhra Pradesh State Government. The government has to allot them 2 to 3 acres of waste land per unit for the disposal of mango waste products, modernized packing system to export fruit pulp and serious efforts should be made to expand external market as processing industry is rapidly increasing throughout the country. This task of expansion of foreign market should be undertaken by Central government, state government of Andhra Pradesh, Ministry of Food Processing Industry, APEDA and other organizations specially created for the purpose. From the study and observations one gets the impression that the fruit processing industry in particularly mangoes has very bright future in view of the increasing demand for mango fruit products in the international standards.

### Web sites

1. [www.apeda.com](http://www.apeda.com)
2. [www.mofpi.nic.in](http://www.mofpi.nic.in)
3. [www.nhb.gov.in](http://www.nhb.gov.in)
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