ISSN 2277 3304

Research Foundation's

INDIAN JOURNAL OF MANAGEMENT

Vol. 2, Number 2 April 2013 - September 2013

THE RESEARCH DEVELOPMENT RESEARCH FOUNDATION, JAIPUR (INDIA)

Indian Journal of Management

Volume 2, No. 2 • April 2013 - September 2013

Challenges Facing Mango Processors of India and the Feasible Solutions

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Keywords: *Mango processors, challenges, solutions*

Abstract

India is the largest producer of mango in the world, contributing to nearly 46% of the total world production. India has an edge over other countries when it comes to mango production in terms of natural resources required and climatic conditions. Despite all this, mango processors of India are facing grave challenges including; lack of necessary infrastructure, middle men menace, lack of support by the concerned nodal (Governmental/ Institutional) bodies, poor profitability and seasonality of the processing activity, non availability of right varieties of mangoes that are ideal for processing, etc., leading to processing of just 2% of total production. This has catalyzed the need for research work to be undertaken in this area.

Exploratory research has been made in this research paper which includes secondary research as well, to know the major challenges that this Industry is facing today. Attempt has been made to propose meaningful hypotheses based on the exploratory study made. These hypotheses will be tested in the consecutive phase of the research through empirical studies aimed at the mango processors of India.

Major reasons for ill growth of this industry include: non availability of right varieties of mangoes that are ideal for processing; lack of necessary infrastructure; lack of cooperative effort amongst processing community; and lack of integration of all the activities starting from farm gate till final consumers because of ill functioning of the government departments/nodal bodies/institutions with no clear direction and goals.

Mango Processors of India, collectively, have to look for the feasible solutions to address the challenges mentioned above and reap the enormous advantages/benefits/ profits which this sector is to offer. Problems/constraints have to be studied in wholesome, integrated and strategic manner rather than adopting piecemeal approach.

Introduction

India is the largest producer of mango in the world, contributing to nearly 46% of the total world production. India has an edge over other countries when it comes to mango production in terms of natural resources required and climatic conditions. In fact the Indian 'Alphonso' is the most sought after fruit in the world – known popularly as the 'king of all fruits'. There is a great demand for the processed mango products, especially the mango pulp, pickles, chutneys, juices, jams, slices in brine, etc, in the international markets. This should be seen as a great opportunity to be exploited by Indian mango processors.

The research reveals that China and Philippines have experienced highest growth rate (11.3% and 9.08% CGR respectively), even in the mango production also. This clearly indicates the fact that China has realized the tremendous potential that is being hidden in this specialized sector, i.e. mango processing industry, and is trying to exploit the same before any other country does. Brazil, Egypt, Indonesia, Pakistan and Nigeria are the countries that are experiencing significant growth between 4 and 6%.

Mango processors of India are facing grave challenges including; lack of necessary infrastructure, middle men menace, lack of support by the concerned nodal (Governmental/ Institutional) bodies, poor profitability and seasonality of the processing activity, non availability of right varieties of mangoes that are ideal for processing, etc., leading to processing of just 2% of total production.

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processing; lack of necessary infrastructure; lack of cooperative effort amongst processing community; and lack of integration of all the activities starting from farm gate till final consumers because of ill functioning of the government departments/nodal bodies/institutions with no clear direction and goals.

The Indian fruit processing sector is undoubtedly a potential sector and has a tremendous scope for unparalleled growth prospectus in the coming days. The Government of India has taken a lot of initiatives and policy decisions for commercializing agriculture with specific importance on high tech horticulture and developing the fruit processing, preservation and packaging sectors to its full capacity. The fruit processing sector is rapidly being transformed into a high volume profit making industry. A distinct shift is seen among the consumers for processed, prepared and packed fruit products not only in the so called developed countries but also in the developing countries like India. This has catalyzed the research work in this area leading to publishing of numerous research articles and papers.

This calls for a detailed study on 'challenges facing mango processors of India and the feasible solutions'. The problems / challenges facing mango processors have to be looked in to and to be analyzed holistically than adopting a piecemeal approach. The feasible solutions to the problems / challenges facing mango processors need to be explored.

Literature Review

Literature available pertaining to the subject matter is being discussed in brief, which throws light on the contributions made by the prominent researchers in this study area. This will set the guidelines for the present research work and indicate the tremendous scope for the further research in this particular area.

MOFPI (Ministry of Food Processing Industries) Report, (1999), reported that India is the largest producer of fruits (41.5 mmt) and second largest producer of vegetables (67.28 mmt) in the world. The country tops in production of banana, mango, potato, tomato, onion, green peas and coconut. **Only 2% of the fruits/vegetables produced are being processed at present**. The installed capacity of fruits and vegetables processing industries has increased to 21 lakh tons in 1999 with 4589 fruit/ vegetables processing units. Exports during 1998-99 were worth Rs. 678 crores.

US Commercial Services Report (2000), reported that the Indian food processing industry is a high priority sector and is poised for excellent growth in the next century. The government of India has adopted a major policy decision for commercializing agriculture and packaging sectors. Agricultural production and food processing together accounts 30% of India's GDP and employs more than 70% of its work force.

MOFPI (Ministry of Food Processing Industries) in its annual report (2000-01), reported that the country's share in the world trade of processed fruits and vegetables is still less than one percent. As such, abundant investment opportunities are there in the expanding domestic market and export arena. An increasing acceptance of new products together with innovative market development efforts is seen.

MOFPI report (2001), it's report on summary on fruits and vegetable processing documented in the report of Ministry of Food Processing Industries (MOFPI) highlights the following facts;

1. India is the second largest producer of vegetables and third largest producer of fruits.
2. Thirty percent of the fruits and vegetables get wasted due to lack of proper processing and packaging facilities.
3. Only two to three percent of the total produce is being processed in India.
4. Total cultivation area under fruit and vegetables is around 12.0 million hectares and accounts for 7% of the total cultivation area.
5. Main fruits produced in India are Mango, Banana, citrus, Guava and apple. These fruits account for 75 to 80 percent of total fruit production.

Mckinsey and CII study report, (2001), in their article reported that, according to a joint study conducted by Mc Kinsey and Confederation of Indian Industry (CII), a staggering fifty percent of production of fruits and vegetables in India are lost due to wastage and value destruction. In monetary terms, the loss was estimated at over Rs.23000.00 crores a year.

Surinder Sud (1998), in his article on India's revolutionary progress in food production opined that the interest shown by the domestic corporate sector and transnational corporations in setting up food processing units indicate that India would soon emerge as an important player in the international processed foods market. The Government already has approved about 343 proposals for 100% Export Oriented Food Processing Units and joint ventures since the beginning of the economic reforms, i.e. in the early 1990's. These would involve an investment to the tune of Rs.43040 Million including foreign direct Investment worth Rs.7880 Million.

K.P.Prabhakaran Nair (2006), expressed that Indian agriculture is being undermined because of the unreformed policies in the agriculture sector that continue to encourage monoculture such as wheat and rice in Punjab and sugarcane in Maharashtra, where the cultivation has lead to exploitation of ground water causing long term environmental degradation. The extensive input subsidies which are not conducive to efficient agro practices may cause greater harm in the future. Indian agricultural extension network is comparatively inefficient when compared with the other countries like China and Brazil.

Researcher argued that China's success in the agriculture processing sector is mainly due to their '**bottom up**' approach where in around 1.5 million **farmer agro technology extension agents**, who work shoulder to shoulder with the farmers in the field adopting innovative practices all the time. Whereas we adopt **'top down'** approach, where in agricultural scientists, doing research, frame strategies and policies for future in consultation with politicians and bureaucrats. But least importance has been given to extension activities through which technological innovations and advance practices will reach to ultimate farmers.

According to the researcher Indian agriculture sector will bloom only when the mentality of India's agricultural fraternity will give top priority to providing necessary help and support to our farmers in the field.

Gouri Sundaram (2000), in a study on processed tropical fruits indicated that India is the second largest producer of fruits and vegetables in the world with an annual production of 94 mmt (million metric tones). It has the distinction of producing almost all tropical and exotic fruits and vegetables

because of varied climatic conditions. Due to the short life span of these crops, as much as **30 – 35% of the fruits and vegetables perish at various stages viz. harvesting, storage, grading, transport, packaging and distribution**. **Only 2% of these crops are processed in to value added products**. Hence there is strong need for maximum commercial utilization of fruits and vegetables and to adopt innovative production and marketing practices to the requirements of the world market and also to cater to domestic demand which over the past few years has been increasing because of various socio economic factors.

MOFPI Report, (1998), in their documentation on fruit processing submitted to Ministry of Food Processing Industry, highlighted that fruit and vegetable processing industry in India is highly decentralized. A large number of units are in home scale sector, cottage scale sector and small scale sector having installed capacity of 50 tons to 250 tons a year, where as a smaller number of large scale Indian and multinational companies have larger installed capacities in the range of 05 to 30 tons per hour. Due to effective liberalization policies and withdrawal of excise duty on fruit and vegetable products there has been significant rise in the growth rate of production of this industry.

Srinivas et al. (1997), conducted a survey to assess the post harvest losses of Totapuri (Bangalore) and Alphonso (Badami) mangoes in Karnataka and reported a total post harvest loss of 17.9% (3.5% at the orchard or farm; 4.9% during transportation; 4.1% during storage; and 5.3% at the retail level). The major causes for losses observed in the order of their occurrence were physical injuries like breakages, spoilage due to poor handling and storage, immature or over maturing of the fruits, under size or over size, pilferage during transportation and handling and damages caused to fruits by birds and hailstorms.

Nagaraj *et al.* (1985), in their study on market appraisal of fruits and vegetables documented the problems and remedies for vegetable producers and intermediaries. The problems documented were lack of storage facilities, delay in getting the sales proceeds from the intermediaries, higher rates of commission, improper weighment, wide fluctuation in prices, higher handling costs at the market, etc. However retailers and commission agents complained about congestion in the market yards. The remedial measures suggested by the participants were;

1. Regulation of markets and equipping with a network of infrastructure facilities ranging from scientific storage to transportation and processing.
2. Regulation of futures trading.
3. Spreading the tentacles of cooperative marketing and reducing their procedural formalities involved to encourage producers.
4. Providing financial assistance to purchase well ventilated vehicles / temperature controlled vehicles and fruit and vegetable storing plastic crates / cartons, which are to be used for transporting and marketing of perishables.

Research Methodology

Exploratory research has been made in this research paper which includes secondary research as well, to know the major challenges that this Industry is facing today. Attempt has been made to

propose meaningful hypotheses based on the exploratory study made. These hypotheses will be tested in the consecutive phase of the research through empirical studies aimed at the mango processors of India.

Major challenges and feasible solutions

1. *"Lack of cooperative effort amongst processing community is a serious hindrance that prohibits this industry from reaping the benefits of larger economies of scale and higher value addition."*

   This in turn mean smallness of individual processors is the prime cause for their exploitation and is preventing Indian fruit processing industry from exploiting the huge potential that India has in this sector.

   A cooperative movement amongst processing community will strengthen their position with regard to the following;

   i. Creating necessary infrastructure like; well developed nurseries, laboratories, storage facilities including cold storage, pre cooling, and freeze drying facilities, packaging facilities, processing facilities, marketing and sales networks, extension networks, GIS facility, regional cargo airports, etc., will become possible.

   ii. Reaping the benefits of larger economies of scale and higher value addition will become possible.

   iii. Adopting an integrated approach right from the farm gate till final consumer encompassing all the activities like; planting the right variety quality seedling/sapling, harvesting at right time, proper grading, proper storing, error free processing, innovative packaging, efficient and effective marketing and selling, etc., will become possible.

   iv. Enjoying higher power to bargain in the market will lead to fetching better prices for their output, which in turn will improve the financial position of the cultivators and the processors.

   v. Creating a niche in the international market for Indian produce can be made possible through proper positioning, advertising, and marketing of the Indian products successfully in the international markets.

   vi. Changing the attitude and mindset (negative) of Indian consumers towards packed and processed fruit products can be accomplished through massive advertisements and awareness campaigns.

   vii. Developing and employing advanced technology for improving the quality standards of end products can be made possible.

   Enchanting success of 'green revolution' and 'white revolution' in India has already set the trend. A similar approach needs to be followed to turn around this industry and making '**horticulture revolution**' a successful one.

2. *"Lack of integration of all the activities starting from farm gate till final consumers because of ill functioning of the government departments/nodal bodies/institutions with no clear direction and*

goals prohibit the farming community and processing industry of India from attaining the desired growth."

In India, there lies a huge gap between these two groups, *i.e.* cultivators and processors. This has paved the way for '**middle men menace**', the serious problem facing this industry. The concept of "**farm gate to customers' plate**" has remained a concept only. NHB (National Horticulture Board), the Apex nodal body of India, employs 134 people altogether out of which 32 people are directors. It employs a 'Top Down' approach and focus on; launching new schemes; seeking grants from the Government; and distributing the same to cultivators and processors.

3. *"Indian fruit processing industry especially mango processing industry is affected by non availability of high yield, high pulp containing varieties of mangoes that also have high resistance towards pest attack which are ideal for processing".*

This in turn is due to non availability of quality seedling/sapling of the desired variety at the time of plantations and lack of adequate extension support to farmers from the concerned Government nodal agencies.

This means that farming community should be provided with the required extension support by the concerned departments, nodal agencies and institutions with regard to following;

- Providing right variety quality seedling/sapling in right quantity at right time. Necessary arrangements have to be made to ensure this.
- Careful monitoring of the growth
- Using effective and efficient farm management practices
- Using right mode for harvesting at the right time
- Employing effective and efficient post harvest management practices and post harvest technologies.
- Seeking the benefits of economies of scale.
- Minimizing post harvest loss, *etc.*

Cultivators should be made aware (educated) about the benefits of growing right variety, including fetching of better price for their produce in the market. Necessary steps need to be taken in this direction. Government departments/nodal bodies/institutions/NGOs/Co-operatives/ Associations need to reorient their strategies and reallocate their resources in the right direction to ensure that farming community will not be deprived of necessary KSAs (knowledge, skills and abilities) and the basic infrastructure. This certainly will change the attitude and mindset of cultivators.

4. *"Indian fruit processing industry especially mango processing industry is plagued with lack of necessary infrastructure that is required for harvesting, transporting, raw material storing, grading, processing, packaging, marketing of the output, etc. This is a serious bottleneck for this industry."*

This means that there lies a tremendous scope to revamp this industry by; adopting well proven

strategies, channelizing the funds properly to create the necessary infrastructure that is required, extending necessary support to the fruit processing industries by the concerned government departments, nodal bodies, and institutions, etc. Traditional practices needs to be replaced with ultra modern practices that embrace technological advancements together with sound management skills. This will definitely bring down the post harvest loss to more reasonable levels.

Creating necessary infrastructure should be the top most priority. All the stake holders should come together, join their hands and work on this common agenda of building necessary infrastructure, which is the need of the hour to turn around this industry. Government departments/ nodal bodies/institutions/NGOs/Co-operatives/Associations need to reorient their strategies and re-direct/re-allocate their resources in the right direction to ensure that the processing industry will get all the necessary facilities/infrastructure that are required. This certainly will strengthen the fruit processing industry of India.

Conclusion

Mango Processors of India, collectively, have to look for the feasible solutions to address the challenges mentioned above and reap the enormous advantages/benefits/ profits which this sector is to offer. Problems/constraints have to be studied in wholesome, integrated and strategic manner rather than adopting piecemeal approach. A coordinated, integrated and strategic effort of all the stake holders is must to turnaround this industry.

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