

Challenges facing mango cultivators of India and the feasible solutions

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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 cultivators of India are facing grave challenges including; very small land holdings, non-availability of quality seedlings / saplings, huge post-harvest loss due to dearth of infrastructure, middle men menace, lack of support by the concerned nodal bodies, lack of cooperative effort, poor profitability of the cultivation activity, etc., leading to negative growth rate (-0.86%). This has catalyzed the research work in this area. Major reasons for ill growth of this sector include: non availability of right varieties of mangoes that are ideal for processing; lack of necessary infrastructure; lack of cooperative effort amongst farming 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. A coordinated, integrated and strategic effort of all the stake holders is must to turnaround this industry. Mango cultivation Industry of India has to undergo a radical shift to address all the above constraints 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.*

Key words: Mango cultivators, challenges, solutions, India.

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 Indian mangoes and also 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 cultivators.

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 cultivation 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%.

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India, unfortunately, is the only country that has experienced a negative growth of -0.86% CGR, in spite of her being the topmost producer of mango. This indeed is a matter of grave concern for India, which needs to be addressed.

Mango cultivators of India are facing grave challenges including; very small land holdings, non-availability of quality seedlings / saplings, huge post-harvest loss due to dearth of infrastructure, middle men menace, lack of support by the concerned nodal bodies, lack of cooperative effort, poor profitability of the cultivation activity, etc., leading to negative growth rate (-0.86%). This has catalyzed the research work in this area.

Major reasons for ill growth of this sector include: non availability of high yield, high pulp containing varieties of mangoes that also have high resistance towards pest attack, which are ideal for processing; lack of necessary infrastructure that is required for harvesting, transporting, raw material storing, grading, processing, packaging and marketing of the output; lack of cooperative effort amongst farming 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 cultivators of India and the feasible solutions'. The problems / challenges facing mango cultivators 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 cultivators 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.

NFI Archive Report (2003), reported that the fruits and vegetables that are grown only on 6-7 percent of gross cropped area have contributed more than 18.8 percent of the gross value of agricultural output and 52% export earnings out of total agricultural produce. They further opined that during the last few years considerable emphasis has been given to this sector. Accordingly, areas under fruit production has increased by 172 percent from 1961-1993, productivity per hectare was nearly doubled leading to an increase in production to the tune of 320 percent. The average labor requirement for fruit production is 860 man-days per hectare per annum as against 143 man-days for cereals crops. Crops like grapes, bananas, and pineapple generates much larger employment roughly from 1000 to 2500 man-days per hectare per annum, the researcher added.

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

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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.

TIFAC Report (2000), the task force on Agro food processing of TIFAC on the sub group on fruits and vegetables, has given the technology status and future vision for India. The report states that the total production of fruits in the world is around 370 mmt. India ranks first in the world with an annual output of 32mmt. TIFAC study has focused on 12 selected vegetables which accounts for about 65% of the total production in India. It is estimated that around **20-25%** of the total vegetables is lost due to poor post harvesting practices. Further while discussing about the future trends, the report highlighted that fruits and vegetables would continue to be harvested manually in the future. While small land holdings and non-availability of good quality planting material have been the major issues of concern, it is expected that quality of planting material would improve in the long run due to right selection, hybridization, proper breeding and adoption of tissue culture.

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%. 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), its 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.

Major challenges and feasible solutions

1. *“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.

2. *“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 farming community as well as 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 both farming community as well as processing industry will get all the necessary facilities/infrastructure that is required. This certainly will strengthen the fruit processing industry of India.

3. *“Lack of cooperative effort amongst farming as well as processing community is a serious hindrance that prohibits this industry from reaping the benefits of larger economies of scale and higher value addition.”*

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This in turn mean smallness of individual cultivators and 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 farming as well as 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.

4. *“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.

Conclusion

A coordinated, integrated and strategic effort of all the stake holders is must to turnaround this industry. Mango cultivation Industry of India has to undergo a radical shift to address all the above constraints 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.

Authors' Note

This manuscript is the authors' original work, has not been published and is not under consideration for publication elsewhere.

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