Progress and Potential of Mango Pulp Industry in India

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Outline of presentation

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Backdrop

- Food Processing is a sunrise industry of Indian Economy
- Present processing level of 2% is very low
- The National Government Policy on food processing aims at increasing food processing level to the tune of 25% by the year 2025.
- The Ministry of Food Processing has set targets under Vision-2015
  - Triple the size of the food processing industry from around US$ 70 billion to US$210 billion
  - Raising the level of processing of perishables from 6% to 20%
  - Increasing Value addition from 20% to 35% and
  - Doubling India’s share in global food trade from 1.5% to 3%
Focus

• Mango Processing for Pulp can be one potential option in moving towards these targets.
Methodology

- **Data**: Secondary data
- **NHB, APEDA**
- **Analysis approach**: Tabular, Functional Analysis
Results and discussion
Status of Mango production

• In India Mango Production increased from 8.7 million tons to 13.8 million tons during 1991-2007
• Major mango producing states are AP, UP, Karnataka, Gujarat, Maharashtra, Tamil Nadu and West Bengal
• The states together accounted for 74.2 % of area and 79.6 % of mangoes production in the country in 2007.
Progress in Mango Pulp Exports

- India has exported fresh mangoes and its pulp to the tune of Rs 127 crores and Rs 510 crores, respectively in 2007-08.
- Share of Mango pulp in agri-exports increased from 0.48 to 0.96 % during 1995-96 to 2007-08.
- In the total processed fruits and vegetables export, the quantity share of pulp exports increased from 18.62 % to 21.52 %
- In value terms the share increased from 17.12 % to 20.8 %
- Annual growth rate of Mango pulp export was 16.03 % during 1993-94 to 2007-08.
Major destinations of mango pulp exports

• Major destinations for Indian pulp exports are Saudi Arabia, Yemen Arab Republic, UAE and Netherlands.

• For analysis purpose export destinations are classified under three categories.
  
  High quantity importers
  High total value importers
  High unit value importers
Major destinations of mango pulp exports

- List of top 4 high quantity importers and top 4 high total value importers are same.
- Share of top 10 countries of high quantity imports ranged between 78 to 82 percent during 2005-06 to 2007-08
- Share of top 10 countries of high total value imports ranged between 77 to 81 percent during 2005-06 to 2007-08
Major destinations of mango pulp exports

• List of top 10 countries of high unit value imports is very different from the former two lists.

• Japan is the only country appearing in the list of both high value and high unit value destination.

• But Japan share is only 3 % in quantity and 7 % in value
Major destinations of mango pulp exports

- Average unit price realized from Mango Pulp exports to all countries during 2005-06 to 2007-08 ranged between Rs 27058 to 32252 per ton.

- This average price realized is very close to average unit price realized from top 10 countries having both high quantity imports and high total value imports.

- The average price is very far off from the price realized in the case of top 10 countries of high unit value imports.
Major destinations of mango pulp exports

- The analysis results indicate that Indian mango pulp price is determined by top 10 countries of high quantity imports and high total value imports.
- APITCO (1999) reported that the low unit value realization of Indian pulp exports is the result of Indian Exporters undercutting each other on price front.
Determinants of import demand function for mango pulp from India

- Time series data of total exports from India to all countries during 1990-91 to 2007-08
- Panel data of county wise mango pulp exports and unit value realized for the period 1999-2000 to 2007-08
- Separate import demand elasticity estimation for
  (i) countries with high quantity imports
  (ii) countries with high unit value imports

Explanatory variables

Unit value realized
Importing country GDP
Determinants of import demand function for mango pulp from India

- Demand elasticity of unit value for all countries is -0.82
- Panel data analysis yielded demand elasticity of unit value -1.09
- GDP Variable is associated with positive sign, with a level of significance of 12%
Determinants of import demand function for mango pulp from India

- Demand elasticity of unit value worked out to be -0.63 in the case high quantity importing countries.
- GDP variable is associated with negative value.
- Demand elasticity of unit value worked out to be -0.22 in the case high unit value importing countries.
- GDP appeared with positive sign and yielded elasticity figure of 0.66, but is not statistically significant.
Structural features of mango pulp Industry in India.

• Mango pulp is produced from specific varieties of mangoes viz; Totapuri, Alphonso and Raspuri

• AP, TN, Maharashtra and Karnataka are the major producers of mango pulp.

• Above 90% of the Country’s mango pulp is produced in Chittoor district, of A.P and Krishnagiri district of T.N

Chittoor is AEZ
Mango canning – steps

- Purchase of green mangoes
- Ripening
- Sorting
- Washing (manual/mechanized)
- Cutting (manual/mechanized)
- Transfering slices to pulper (manual/mechanized)
- Processing in Pulper
- Passing over mesh to separate pulp
- Heating
- Testing
- Canning
- Boiling in retards
- Cooling in cold water for 1 hr
- Storing
- Marketing
Structural features of mango pulp Industry in India

• Produced under two types of technology (i) Conventional technology (ii) Aseptic technology
• APITCO(1999) Estimated that an aseptic packaging unit of capacity of 5 tonnes per hour needs investment of Rs 450 lakhs
• But the pulp produced in aseptic units also fetches higher unit price.
Structural features of mango pulp Industry in India

• Two systems of processing
  (i) Owned processing (ii) processing under Job work

• **Advantages in job work**
  • Lower working capital requirement
  • Lower marketing risk

• **Problems in job work**
  • Labour risk
  • Lower job work rate due to increasing competition from increasing number of pulp units.
  • Working capital costly
Structural features of mango pulp Industry in India

- **Advantages in own processing**
  - Improved capacity utilization

- **Constraints in own processing**
  - High fixed investment cost
  - Working capital cost high
  - Marketing problem
  - No margin of job work rate
Structural features of mango pulp Industry in India

- Problems in general
- Seasonality
- Fluctuations in mango price
- Electricity charges
- Competition between small units vis-à-vis big units
- AEZ creation is not helpful in information provision regarding export opportunities and facilitate direct marketing by processors
Some other general constraints in realizing potentials of mango pulp industry

• There is no systematic data on variety-wise area and production of mango quantity available for processing

• The Smaller processing units indicated that under the circumstances of fluctuations in mango supply, bigger units with network facility control mango prices

• Undercutting in job work rate also
• Data on total pulp production in the country and its total domestic consumption is not available
Conclusions and Policy implications

- Analysis of pattern of mango pulp exports from India has clearly indicated that India faces two distinct categories of clientele viz:
  - (i) high quantity importers with low unit value
  - (ii) high unit value importers with low quantity

The first category list is stable in terms of countries and this group is influencing overall average unit value realized by Indian mango pulp exports.

For reaping the benefits from both kinds of opportunities, India has to build both its capacity and improve capacity utilization by addressing the constraints.
THANK YOU