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# PAPAYA: WAITING FOR A PLANNED COMMERCIAL STRATEGY

Papaya's medicinal and nutritional values have set in a huge external demand for the fruit crop. It's time to work up a befitting strategy to get high returns from it.



**P**apaya (*Carica papaya* L.) is one of the widely consumed fruits in the world and is grown throughout the tropics and subtropics. It is native to Central America and was introduced in India by Dutch traders during the 16th century. Papaya is now grown widely in India, Sri Lanka, Australia,

Philippines and South Africa.

Papaya is a wholesome fruit having more carotene compared to other fruits such as apples, guavas, plantain etc. It is a good source of Vitamin A and C, and beta-carotene, that helps to prevent damage by free radical, which might otherwise lead to cancer.

Papaya has several nutritional

benefits:

1. Its fruit assists in preventing constipation.

2. Several studies indicated that an exclusive papaya diet for three days has a useful tonic effect on stomach and intestines.

3. It's a good bleaching agent and forms a vital ingredient in liquid and bar bath soaps.

4. Its consumption helps in lowering high cholesterol levels as it's a rich source of fibre.

5. Papaya leaf is useful in curing cough, fever, malaria etc. A recent 2010 research at the University of Florida and Japan indicated that papaya leaf extract and its tea have anti-cancer activity on tumors of the cervix, breast, lungs, liver and pancreas. The findings support Asian and Vietnamese traditional healing beliefs.

6. Unripe papaya is a rich source of papain (digestive enzyme), which is a vegetable pepsin and aids digestion in acidic, alkaline or neutral medium. It also exhibits pain relieving properties and the US food and drug administration has approved its medicinal use to ease the discomforts of slipped vertebral discs to relieve pain caused by pressure on nerves.

7. Papain is used in pharmaceu-

tical industry in medicine as well as in the food procuring industry. It is also used in the tanning of leather and has applications in the paper and adhesive industries as well as in sewage disposal.

8. It is also used in dairy, bakery, fish, perfumery plastics and other industries as a raw material.

## World production

India stands first in the production of papaya in the world followed by Nigeria, Indonesia, Mexico, Ethiopia and others. The total area under this crop during 2008-09 was 404,079 hectares and the production amounted to 10,038,838 metric tonnes. In this, India's share was 36.1 per cent and Brazil's was 18.9 per cent as seen in Table I.

## Cultivation in India

In India, the southern states, viz, Andhra Pradesh, Tamil Nadu, Karnataka and Kerala, pose ideal conditions for papaya cultivation. However, it is also cultivated in the north, east and western parts of the country. The total area under this crop in

Table II  
**State-wise Area and Production of Papaya in 2009-10**

| State                           | Area ('000 ha) | Production ('000 MT) | Per cent share in total production |
|---------------------------------|----------------|----------------------|------------------------------------|
| Andhra Pradesh                  | 19.8           | 1581.2               | 40.42                              |
| Gujarat                         | 15.3           | 832.9                | 21.29                              |
| Karnataka                       | 6.0            | 440.9                | 11.27                              |
| West Bengal                     | 11.1           | 321.8                | 8.23                               |
| Chhattisgarh                    | 9.3            | 211.7                | 5.41                               |
| Assam                           | 7.6            | 145.5                | 3.72                               |
| Tamil Nadu                      | 0.5            | 95.6                 | 2.44                               |
| Kerala                          | 17.7           | 80.7                 | 2.06                               |
| Madhya Pradesh                  | 1.7            | 54.2                 | 1.38                               |
| <b>Total (including others)</b> | <b>102.6</b>   | <b>3911.6</b>        | <b>100.00</b>                      |

Source: NHB

2008-09 was 97,700 hectares and the production stood at 3,906,000 metric tonnes. The area during 2009-10 increased to 102,600 hectares and the production stood at 3,911,600 metric tonnes.

As far as state-wise production is concerned, Andhra Pradesh tops the list followed by Gujarat, Karnataka and West Bengal. Data on area and production of papaya in different states for the year 2009-10 is given in Table II.

Several varieties like Co-org Honey Dew, Wasington, Pusa Delicious, Pusa Dwarf, Taiwan, etc, are grown in India. In Andhra Pradesh it is grown largely in the districts of Cuddapah, Medak, Kurnool and Rangareddy, while in Kheda, Ahmedabad and Jamnagar in Gujarat, and in Sangli, Satara, Pune, Nasik and

Sholapur districts in Maharashtra. In Karnataka it is popularly cultivated in Shimoga, Chitradurga, Mysore, Belgaum and Hasan districts. As far as harvesting is concerned, it is carried out throughout the year in Andhra Pradesh, Assam, Maharashtra, Tamil Nadu and West Bengal.

## Export

India exports papaya and its value added products to UAE, Saudi Arabia, Kuwait, USA and EU countries. The total volume of exports in 2006-07 was 1,034,443 kg, valued at Rs 116 million. It increased to 17,924,967 kg, worth Rs 174.8 million during 2009-10. Out of the total exports, share of the Asian region is the highest followed by EU countries as seen in Table III.

## Problems of the sector

The various problems faced by the sector include:

1. Low productivity due to the cultivation of local varieties.
2. Problem of pests and diseases due to which the productivity is declining. Recently, Tamil Nadu faced

Table I

## Area and Production of Papaya in the World in 2008-09

| Country                         | Area (ha)      | Production (MT)   | Per cent of share in world production | Productivity (MT/ha) |
|---------------------------------|----------------|-------------------|---------------------------------------|----------------------|
| India                           | 98,000         | 3,629,000         | 36.1                                  | 37.0                 |
| Brazil                          | 36,750         | 1,900,000         | 18.9                                  | 51.7                 |
| Nigeria                         | 92,500         | 765,000           | 7.6                                   | 8.3                  |
| Indonesia                       | 8982           | 653,276           | 6.5                                   | 72.7                 |
| Mexico                          | 16,084         | 638,237           | 6.4                                   | 39.7                 |
| Ethiopia                        | 12,500         | 260,000           | 2.6                                   | 20.8                 |
| Congo                           | 13,500         | 223,770           | 2.2                                   | 16.6                 |
| Colombia                        | 5498           | 207,698           | 2.1                                   | 37.8                 |
| Guatemala                       | 3500           | 184,530           | 1.8                                   | 52.7                 |
| Philippines                     | 9175           | 182,907           | 1.8                                   | 19.9                 |
| <b>Total (including others)</b> | <b>404,079</b> | <b>10,038,838</b> | <b>100.0</b>                          | <b>13.0</b>          |

Source: FAO

a threat from a new kind of pest called 'Mealy Bug.'

3. Non-availability of high yielding dwarf varieties.

4. Lack of information on post-harvest handling and marketing practices. Associated losses occurring at different stages of handling have been responsible for an estimated loss of around 40 per cent.

5. Marketing system for papaya is not efficient. Several studies indicate that the producer's share in consumer's price is only 26 per cent.

## Measures needed

Papaya has high commercial importance and huge external demand due to its medicinal and nutritive values. To solve the prevailing problems faced by it, following measures are recommended:

1. Introduce and supply high-yielding dwarf varieties to the farmers.

2. Follow proper orchard management practices like INM, GAP and good irrigation management

| Table III<br>Export of Papaya from India<br>in 2009-10 |                   |                    |
|--|-------------------|--------------------|
| Country  | Volume (kg)       | Value (Rs)         |
| UAE  | 7,651,961         | 73,741,843         |
| Saudi Arabia   | 2,598,674         | 30,807,858         |
| Netherlands  | 749,646           | 16,819,438         |
| Baharain   | 1,835,204         | 14,561,700         |
| Kuwait   | 1,645,755         | 13,234,775         |
| Quatar   | 1,626,660         | 10,791,912         |
| Nepal  | 983,253           | 6,342,536          |
| Oman   | 222,905           | 2,529,498          |
| USA  | 23,015            | 1,347,886          |
| France   | 75,724            | 1,340,586          |
| Germany  | 53,342            | 1,240,835          |
| <b>Total (including others)</b>                        | <b>17,924,967</b> | <b>174,875,399</b> |
| <i>Source: APEDA</i>                                   |                   |                    |

with adequate moisture conservation methods, especially during acute dry period. Also effective as well as timely control of pests and diseases through environment friendly approaches may boost the production and productivity.

3. Extraction of papain can be

taken up by local population on commercial scale to obtain additional income.

4. Provide education and training to the farmers on recommended pre- and post-harvest treatments and better handling as well as storage to improve the marketing efficiency.

5. Promote not only the production of papaya but also value added products of it. The proposed Indo-EU FTA provides vast scope to increase the export of papaya to European Union.

6. Provide better cold storage facilities both at the farm gate and consuming centres to minimise the post-harvest losses.

7. Encourage marketing either through co-operatives or through self-help groups.

8. Develop blended papaya leather for enhancing its commercial value and to provide a more diversified product range in the market.

9. Convert the papaya fruit into processed products like juice, blended beverages, jam, jelly, fruit bar and candy, etc, to ensure extended storage for transportation, trade and consumption. This may reduce the volume of post-harvest losses to a greater extent.

Papaya is a promising fruit crop. However, so far its commercial exploitation has not taken place in India. Hence, efforts are needed not only to increase its production but also to add value to it. In this regard, there is a need to have a proper planned strategy in our country.



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