

## A Study of Marketing of Mangoes in India

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### Abstract

India's diverse climate ensures availability of all varieties of fresh fruits & vegetables. It ranks second in fruits and vegetables production in the world, after China. As per National Horticulture Database 2012 published by National Horticulture Board, during 2011-12 India produced 76.424 million metric tonnes of fruits and 156.33 million metric tonnes of vegetables. The area under cultivation of fruits stood at 6.704 million hectares while vegetables were cultivated at 8.99 million hectares. India ranks first in production of Bananas (27.85%), Papayas (35.31%), Mangoes (including mangosteens, and guavas)(39.04%). The vast production base offers India tremendous opportunities for export. During 2012-13, India exported fruits and vegetables worth Rs.5730.85 crores which comprised of fruits worth Rs. 2467.40 crores and vegetables worth Rs. 3263.45 crores. Mangoes, Walnuts, Grapes, Bananas, Pomegranates account for larger portion of fruits exported from the country. The major destinations for Indian fruits and vegetables are USA, Bangladesh, Malaysia, UK, Netherland, Pakistan, Saudi Arabia, Sri Lanka and Nepal. The present paper attempts to study the area, production & productivity of mangoes in India, the export of mangoes to the various foreign countries in the world, Issues to be tackled to increase export of Mangoes & Challenges in production of Mangoes.

**KEYWORDS:** Mango, Production, fruit, export

### Introduction:

Approximately 50% of all tropical fruits produced worldwide are mangoes. Mango (*Mangifera indica* Linn) is an important fruit crop in India and popularly called the 'king of fruits'. Mango is the most widely cultivated fruit in India. India is the major Mango growing country, contributing nearly 49.62% of world's area and 42.06% of world's production respectively. Area under Mango crop in Andhra Pradesh is the highest in the country. The fruit is very popular with the masses due to its wide range of adaptability, high nutritive value, richness in variety, delicious taste and excellent flavor. The fruit is consumed in both forms raw and ripe. Every part of the Mango is utilized in some form or another. Bark, leaves, skin or pit, all have been concocted into various types of treatments or preventatives down through centuries.

Indian mangoes come in various shapes, sizes and colours with a wide variety of flavour, aroma and taste. The Indian mango is the special product that substantiates the high standards of quality and abundant of nutrients packed in it. A single mango can provide up to 40 percent of the daily dietary fibre needs – a potent protector against heart disease, cancer and cholesterol build –up .In addition, this luscious fruit is a warehouse of potassium, beta- carotene and antioxidants. In India, mangoes are mainly grown in tropical and subtropical regions from sea level to an altitude of 1,500m. Mangoes grow best in temperatures around 27° For maintaining highest quality standards, State-of-the-art packhouses have been set up in major production zones.

Keeping in view the different country requirements, internationally recognized treatment facilities like Hot water treatment, Vapour heat treatment and Irradiation facilities have also been set up at various locations across the production belt. Unique product identification system, compliant to the traceability networking and Residue Monitoring Plan has been developed for the consumer safety and readiness to product recall in case of any emergency.

**Objectives of the study:**

1. To study the area, production & productivity of mangoes in India.
2. To study the export of mangoes to the various foreign countries in the world.
3. Issues to be tackled to increase export of Mangoes
4. To study the Challenges in production of Mangoes.

**Research Methodology**

Secondary data was used for study. It was collected from books, study material of professional courses & websites.

**Varieties:**

India is the home of about 1,000 varieties. However, only a few varieties are commercially cultivated throughout India. Most of the Indian mango varieties have specific eco - geographical requirements for optimum growth and yield. The Northern/Eastern Indian varieties are usually late bearing compared to Southern and Western Indian varieties. Some of the local varieties of mango bear fruits throughout the year in extreme southern parts of India.

**The important commercial varieties are as :**

Andhra Pradesh	Banganapalli, Suvarnarekha, Neelum and Totapuri
Bihar	Bombay Green, Chausa, Dashehari, Fazli, Gulabkhas, Kishen Bhog, Himsagar, Zardalu and Langra
Gujarat	Kesar, Alphonso, Rajapuri, Jamadar, Totapuri, Neelum, Dashehari and Langra
Haryana	Chausa, Dashehari, Langra and Fazli
Himachal Pradesh	Chausa, Dashehari and Langra
Karnataka	Alphonso, Totapuri, Banganapalli, Pairi, Neelum and Mulgoa
Madhya Pradesh	Alphonso, Bombay Green, Dashehari, Fazli, Langra and Neelum
Maharashtra	Alphonso, Kesar and Pairi
Punjab	Chausa, Dashehari and Malda
Rajasthan	Bombay Green, Chausa, Dashehari and Langra
Tamil Nadu	Alphonso, Totapuri, Banganapalli and Neelum
Uttar Pradesh	Bombay Green, Chausa, Dashehari and Langra
West Bengal	Fazli, Gulabkhas, Himsagar, Kishenbhog, Langra and

## Bombay Green

**Areas of Cultivation:**

The major mango-growing states are Uttar Pradesh, Andhra Pradesh, Karnataka, Bihar, Gujarat and Tamil Nadu. Uttar Pradesh ranks first in mango production with a share of 23.71% and highest productivity.

**Table No. 1: Area Production & Productivity of Mangoes in India**

State	Area In Hec	Production in MT	Productivity	Area	Production	Productivity	Area	Production	Productivity
	2008-09			2009-10			2010-11		
UP	271.2	3465.9	12.8	274.4	3588.0	13.0	267.2	3623.2	13.6
Andhra	497.7	2522.0	5.1	480.4	4058.3	8.4	391.1	3363.4	8.6
Karnataka	141.3	1284.4	9.1	153.8	1694.0	11.0	161.6	1778.8	11.0
Bihar	144.1	1329.8	9.2	146.0	995.9	6.8	147.0	1334.9	9.1
Gujarat	115.7	299.8	2.6	121.5	856.7	7.0	130.1	911.3	7.0
Tamilnadu	148.8	821.4	5.5	132.7	636.3	4.8	148.0	823.7	5.6
Orrisa	164.3	449.7	2.7	177.6	577.5	3.3	190.1	642.0	3.4
West Bengal	86.0	548.9	6.4	88.1	578.0	6.6	89.5	620.2	6.9
Jharkhand	-	-	-	-	-	-	38.9	427.9	11.0
Kerala	76.7	445.4	5.8	63.8	373.2	5.9	62.2	380.9	6.1
Maharashtra	457.0	712.8	1.6	474.5	597.0	1.3	477.0	331.0	0.7
Others	206.2	869.5	4.2	197.4	1071.7	5.4	194.0	951.1	4.9
Total	2309.0	12749.8	65	2312.3	15026.6	73.5	2296.8	15188.4	6.6

**Source: National Horticulture Board, Ministry of agriculture govt. of India.**

The above table indicates the area, production & productivity of mangoes during the year ended 2008-09, 2009-10 & 2010-11 in the various state of India. The productivity of mangoes of every state shows an increasing trend over the years. The

area of cultivation is highest in Andhra, Maharashtra & Karnataka. The highest production of mango is in the state of UP & Andhra, in the year 2009-10

#### Export of Mangoes from India

**Table no.2: Total Export of Mangoes from the year 2010 to 2013**

Year	Quantity(in kg)	Value(in Rs. Lakhs)
2010-11	5,88,63,405	16,483.61
2011-12	6,34,41,288	20,974.29
2012-13	5,54,13,264	26,475.89

**Source: National Horticulture Board, Ministry of agriculture govt. of India**

India is also a prominent exporter of fresh mangoes to the world. During the year 2010-11 the country has exported 58.86 thousand MT(metric tones) of fresh mangoes to the world worth Rs. 164.84 crores, in the year 2011-12 the country has exported 63.44 thousand MT of fresh mangoes worth Rs. 209.74 crores whereas the country has exported 55.41 thousand MT of fresh mangoes to the world for the worth of Rs. 264.76 crores during the year 2012-13. The following table indicates the export of Mangoes to the different countries of world.

**Table No. 3 : Export of Mangoes to the various foreign countries**

Value in Rs. Lacs

Qty in Kg

Country	2010-11		2011-12		2012-13	
	Qty	Value	Qty	Value	Qty	Value
<a href="#">United Arab Emirates</a>	2,54,74,530	10,318.28	2,20,13,880	10,736.68	3,75,98,657	16,286.62
<a href="#">United Kingdom</a>	27,21,906	1,455.41	25,32,422	1,641.64	33,04,482	3,250.05
<a href="#">Saudi Arabia</a>	15,82,378	618.25	23,88,634	1,169.70	16,65,435	1,200.43
<a href="#">Bangladesh</a>	2,30,49,685	1,859.43	2,75,99,483	4,058.91	46,50,207	776.30
<a href="#">Nepal</a>	19,91,257	209.58	39,25,742	671.42	20,56,068	609.53
<a href="#">United States</a>	99,699	162.61	3,53,177	221.29	2,42,204	578.32
<a href="#">Singapore</a>	3,91,297	206.99	5,99,273	358.11	6,50,273	419.61
<a href="#">Oman</a>	1,36,756	87.71	1,54,774	119.10	3,53,448	300.40
<a href="#">Bahrain</a>	9,82,332	355.89	6,23,689	289.95	4,97,492	260.89
<a href="#">Canada</a>	4,26,682	125.89	4,05,759	149.91	4,37,884	200.52
<a href="#">Malaysia</a>	3,97,821	163.20	3,53,413	127.15	2,23,353	126.42
<a href="#">Hong Kong</a>	1,08,870	48.09	1,52,841	72.29	1,93,899	116.76
<a href="#">France</a>	1,14,884	48.54	1,16,864	48.77	1,47,587	81.82

**Source: National Horticulture Board, Ministry of agriculture govt. of India**

The above table indicates the export of mangoes by India to the different countries of the world from the year 2010-11 to 2012-13. When we compared the export of these three years it was observed that every year export of mangoes was increasing.

### **Issues to be tackled to increase export of Mangoes**

1. **Production related** : India has been endowed with a wide range of agro climatic conditions, good soil, water and plenty of sunlight. What is require is new technologies through which farmers can produce mangoes acceptable in the international market. Every operation in the farm-planting, fertilizer application, irrigation, plant protection, pre -harvesting, spraying and harvesting-should be as per the recommendations of the expert so that phyto-sanitary certificate could be obtained easily. This will enable getting big volume by pooling the produce of different farmers for export. This will also lead to uniform quality. Use of right variety and disease free planting material should be the main concern. Best hygiene should be maintained in the orchard. Use of fertilizers and pesticides should be minimum so that residue problems do not occur later. Integrated disease and pest management should be followed.
2. **On farm storage** : In a tropical country like India, tremendous amount of quality deterioration takes place immediately after harvesting due to lack of on-farm storage facilities. Various sizes of low cost environment friendly cool chambers using locally available materials like brick, sand, bamboo, etc. should be constructed.
3. **Logistics Management** : Essential elements of business logistics are movement and storage. Inadequate cold-chain facilities, refrigerated warehouse capacity constraints, insufficient air cargo space, improper handling of perishable cargo in storage and transit and exorbitant freight rates are adversely affecting our export performance.
4. **Market intelligence on mango** : Collecting global market information, price trends, and participation in food fairs and festivals in important cities in the US and Japan could be thought of. Since Europeans had tasted our Alphonso mangoes, they do not insist on such stringent health safety certificates for our mangoes, unlike Japan and US. But, people in the U.S. do not know the best qualities of our Alphonso variety, hence, special efforts are needed to promote them in North America and Japan.
5. **Capacity building of Mango growers** : The global information on Alphonso mango should reach the farmers and hence, training of these growers assumes great importance. They should know quality standards of mango and packaging standards of importing countries.
6. **Agri-Export Zone for Alphonso** : The area under Alphonso mango has been increasing very fast in recent years due to implementation of Employment Guarantee Scheme of the Government of Maharashtra. MAHAMANGO, a growers cooperative in Sindhudurg district has one pre-cooling and cold storage unit for Alphonso mango. Agri-Export infrastructure could be strengthened in mango growing regions.

### **Challenges in production of Mangoes**

- Inadequate clean and quality planting material.
- Limited access to information on technology in husbandry practices

- Pests e.g Mango weevil and Fruit fly
- Seasonal over-production
- Inadequate Post-Harvest handling techniques and facilities that lead to significant losses (up-to 40% losses incurred)
- Limited access to information on technology in value addition

### **Marketing Challenges**

- Organizational and market management challenges.
- Poor infrastructure (roads)
- Inadequate post harvest handling facilities
- Price fluctuation in internal and external markets
- Limited knowledge on value addition opportunities.
- High freight charges
- Stringent international market requirements

### **Suggestions : Build capacity on technical skills through -**

- Farmers exchange tours
- Farmers training
- Public-private partnerships ( e.g. with FPEAK, FARM CONCERN, KENFAP, TECHNOSERVE, KARI, KEPHIS)
- Consultative meetings/workshops
- Group formations
- Encouraging the establishment of commercial fruit tree nurseries that are registered by H.C.D.A
- Capacity building of Nursery operators and Service providers
- Improved research- extension- farmer linkages
- Provision of transport and cooling facilities.
- Market surveys and Exhibitions

### **Conclusion**

- Mango production has great potential in India a deeper understanding of the challenges faced in production and marketing is necessary for a focused approach to solutions. Producers should be organized to take advantage of economies of

scale. Further research is required on better yielding varieties Quality parameters of fresh fruit are decided on the basis of appearance factor (i.e. size, shape, pattern, gloss, colour and physical defects), Kinesthetic factor (feel and sense) and sensory measurements (subjective methods). Adequate infrastructure, efficient logistic management, human resources development and multidisciplinary research are essential to enhance quality of export of fresh mangoes. Only integrated and concerted efforts of growers, suppliers, shippers, transporters and exporters can bring about satisfactory results.

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