



# Export Potential of Indian Mangoes

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In many developing countries, such as India, the agricultural sector and agricultural trade continue to be important components of overall economic activity, contributing significantly to both aggregate production and employment. Trade also plays a critical role in ensuring global food security. The geographical diversity of India in terms of climate, topography ensures the availability of a wide range of fresh fruits and vegetables. As a result, it ranks second in the world in terms of fruit and vegetable production, trailing only China. This is primarily due to advancements in cold-chain infrastructure, quality assurance measures, and so on.

Mango (*Mangifera indica*) is Asia's most popular fruit, and it has gained popularity around the world. It has long been a component of culture and religion as a useful and tasty fruit. In addition to taste, it has many good qualities thus making it to be called as “King of Fruits”. Mango is grown in an area of 5.58 million hectares of area in the world. India is the largest producer of mangoes with 46.02 and 45.88 per cent of the total world area and production, respectively. In India, Mango is grown in an area of 2.26 million ha with a production of 21.82 million tonnes and productivity of 9.66 tonnes per ha during 2017-18. India blessed with different agro-climatic conditions is a home for more than 1000 different cultivars of mango.

Alphonso, Totapuri, Kesar, Bombay Green, Rajapuri, Banganapalli are leading export varieties of mango. The variety which is having international market is confined to only few places in India.

The top 20 mango, mangosteen and guava producing countries in the world are India (43.14 %), Indonesia (6.31 %), China (4.43 %), Mexico (4.14 %), China mainland (4.13 %), Pakistan (4.09 %), Brazil (3.72 %), Malawi (3.38 %), Thailand (2.89 %), Bangladesh (2.52 %), Egypt (2.43 %), Viet Nam (2.13 %), Nigeria (1.56 %), Kenya (1.43 %), Mali (1.38 %), Philippines (1.31 %), Sudan (1.17 %), Peru (0.90 %), Nepal (0.84 %) and United Republic of Tanzania (0.76 %). However, India being the major shareholder in terms of mango production, exports only 0.52 % of its total production indicating the huge gap in exporting of mangoes (Table 1). Peru exports about 46 %, Thailand 24 %, Mexico 18 % and Brazil 11 % of their total mango production. These countries are the bigger challenges for Indian mango exports. Hence, efforts are needed to evolve cheap transportation mechanism, increase the trade agreements with major importing countries and enhance the productivity. Our neighboring country Pakistan is managing to export about 4.5 % of its total production indicating that even India has a great potential to increase its share in the global market.

**Table 1: Top 20 Mangoes, mangosteens and guava producing countries in 2019 and 2020**

2019			2020		
Country Name	Quantity (t)	% exported	Country Name	Quantity (t)	% exported
India	25631000	0.57	India	24748000	0.52
Indonesia	3294817	0.04	Indonesia	3617271	0.64
China	2582791	0.34	China	2539717	0.42
China, mainland	2415000	0.00	Mexico	2373111	17.77
Mexico	2396675	17.21	China, mainland	2368180	0.00
Pakistan	2270229	4.28	Pakistan	2344647	4.57
Brazil	2002849	10.79	Brazil	2135304	11.40
Thailand	1643058	29.88	Malawi	1938066	0.01
Malawi	1492687	0.03	Thailand	1657589	23.61
Bangladesh	1456331	0.02	Bangladesh	1448396	0.02
Egypt	1396540	0.00	Egypt	1395244	0.00
Viet Nam	1157853	9.75	Viet Nam	1224576	5.01
Nigeria	896825	0.00	Nigeria	894103	0.00

Mali	814920	2.13	Kenya	819276	2.95
Kenya	806066	1.74	Mali	793220	1.61
Philippines	753985	2.22	Philippines	753103	2.37
Sudan	663037	0.17	Sudan	669667	0.19
Colombia	649730	0.27	Peru	517919	46.22
United Republic of Tanzania	439367	0.00	Nepal	483905	0.06
Peru	431884	46.56	United Republic of Tanzania	437739	0.00

Source: Authors compilation from FAO stat

The top 20 mango, mangosteen and guava producing countries in the world is presented in Table 2. Mexico, Thailand, Brazil, Peru, Netherlands, India, Pakistan, Vietnam, Spain and Ecuador are the major exporting countries. While, the major importing countries are United States of America, Netherlands, Germany, United Arab

Emirates, Saudi Arab, United Kingdom of Great Britain and Northern Ireland, Spain, Malaysia, France, Belgium, Russian Federation, Portugal, Thailand, Singapore, Oman, Iran, Nepal, Uganda, Republic of Korea, Switzerland, China, Italy, Yemen, China Hong Kong SAR and Lao People's Democratic Republic (Table 3).

**Table 2: Top 20 Mangoes, mangosteens and guava exporting countries in 2019 and 2020**

2019		2020	
Country Name	Quantity (t)	Country Name	Quantity (t)
Thailand	490977	Mexico	421636
Mexico	412452	Thailand	391280
Netherlands	221323	Brazil	243466
Brazil	216048	Peru	239391
Peru	201068	Netherlands	239007
India	147242	India	128018
Viet Nam	112857	Pakistan	107195
Pakistan	97099	Viet Nam	61403
Ecuador	53116	Spain	60159
Spain	47174	Ecuador	60102
Côte d'Ivoire	40234	Cambodia	41234
Lao People's Democratic Republic	28078	Belgium	28490
Belgium	23792	Yemen	28034
Israel	19179	Côte d'Ivoire	27806
France	18434	Kenya	24132
Guatemala	18147	Indonesia	23248
Yemen	17423	Philippines	17885
Mali	17377	United Arab Emirates	16497
Philippines	16733	Israel	15845
United Arab Emirates	15655	Guatemala	15734

Source: Authors compilation from FAO stat

It is evident from Table 2 and Table 3 that Netherlands, United Arab Emirates, Thailand are the only countries which fall in the top 20 exporters as well as importers. This clearly indicates that, India can export mangoes to these countries as these countries are involved in both export and import and can be termed as the great potential areas of mango trade. However, if we see the top 10 export destinations of mango from India. India is

exporting to UAE at a large quantity but India has a great potential to export to Netherlands and Thailand as well. The top importing country is United States of America, however India exports only two per cent of its total exports to USA. USA, European countries, UK, Malaysia and Russia can be the other hotspots where India can target to export the mangoes. The critical issue for exporting to USA is transportation cost (due to sea route

distance) and limited shelf life of mango, while for Europe transportation costs as well as competition by African countries are the major hurdles.

Because of its comparative advantage in terms of highest mango production, India has the potential to accelerate supply. Several studies have

been conducted to calculate the Nominal Protection Coefficient (NPC) for the export of fresh mangoes, and the NPC was less than one, indicating that fresh mangoes are a good exportable product with a competitive price in the international market, with a large potential for expansion in the coming years (Kumaresh and Sekar, 2013; Gulati *et al.*, 2013).

**Table 3: Top 20 Mangoes, mangosteens and guava importing countries in 2019 and 2020**

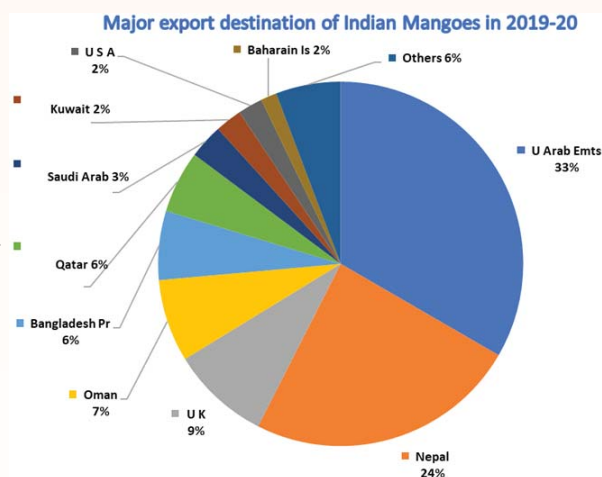
2019		2020	
Country Name	Quantity (t)	Country Name	Quantity (t)
United States of America	493030	United States of America	549210
Netherlands	250253	Netherlands	277727
Germany	91191	Germany	97713
United Arab Emirates	89852	United Arab Emirates	91466
United Kingdom	77946	Saudi Arab	79584
France	70350	United Kingdom	73227
Viet Nam	63415	Spain	70290
Spain	59738	Malaysia	63054
Saudi Arabia	54723	France	60520
Malaysia	38029	Belgium	44758
Portugal	34525	Russian Federation	38695
Belgium	33300	Portugal	38301
Russian Federation	31119	Thailand	37410
Thailand	26909	Singapore	27364
Singapore	25548	Oman	21532
Lao People's Democratic Republic	23246	Iran (Islamic Republic of)	20000
Nepal	21433	Nepal	20000
Iran (Islamic Republic of)	19954	Uganda	19325
Republic of Korea	18840	Republic of Korea	17417
Oman	18147	Switzerland	16695
United States of America	493030	China	15843
Netherlands	250253	Italy	15357
Germany	91191	Yemen	14724
United Arab Emirates	89852	China, Hong Kong SAR	13746
United Kingdom of Great Britain and Northern Ireland	77946	Lao People's Democratic Republic	13181

Source: Authors compilation from FAO stat

### Important market for Indian fresh mangoes

Major mango-growing states in India include Andhra Pradesh, Uttar Pradesh, Karnataka, Bihar, Gujarat and Tamil Nadu. Andhra Pradesh and Uttar Pradesh are the leading states in mango production.

The export value of fresh mangoes is about 400.21 crore rupees during 2019-20. The major destinations of fresh mangoes from India are United Arab Emirates (33%), Nepal (24%), United Kingdom (9%), Oman (7%), Bangladesh (6%), Qatar (6%), Saudi Arabia (3%), Kuwait (2%), USA (2%) and Baharain (2%) whereas, export to other countries contributed to 6 per cent of total exports.



## Important market for mango pulp

India has made a tremendous achievement in the export of mango pulp as compared to the export of fresh mangoes. India has exported 85,725.55 MT of Mango pulp to the world for the worth of 584.32 crore rupees during the year 2019-20. The export earnings from mango pulp are more than the export earnings from fresh mangoes. The major destinations of mango pulp export are Saudi Arab (26.70 %), Yemen Republic (14.13 %), Netherland (9.24 %), Kuwait (8.51 %) and United States of America (4.37 %). Alphonso, Totapuri and Kesar are the major processing varieties cultivated in India. Chittoor in Andhra Pradesh and Krishnagiri in Tamil Nadu are the two clusters where mango pulp is processed and exported to other countries. Apart from this, few of the processing plants are located in Maharashtra and Gujarat.

## Trends in fresh mango export from India

Between 2010-11 and 2019-20, the export of Indian mangoes decreased at a compound annual growth rate of 2.24 percent per year. Exports to the United Arab Emirates and Bangladesh are declining at compound annual growth rates of 5% and 28%, respectively. Exports to Oman, Nepal, and Qatar are growing at compound annual growth rates of 47, 23, and 21%, respectively. Although the UAE and Bangladesh are the major export destinations at the moment, the CAGR indicates that trade directions may change. In the near future, major destinations may include Oman, Nepal, Qatar, and Singapore. Indian mangoes continue to struggle to find a market in the United States, Australia, and a number of other distant countries.

## Constraints in mango export

- Regional suitability of exporting varieties in specific regions of the country.
- Non-adoption of Good Agricultural Practices.
- High pesticide residue.
- Mangoes are mostly harvested by shaking branches or by hitting with stick making the fruits non-suitable for export (mainly in Subtropical region).
- Less number of mango pack houses and low capacity of existing pack houses.

- Insufficient number of irradiation units, vapour heat treatment units and approved pesticide residue analysis labs.
- Limitation of cold chain infra structure for transport of mango to ports.
- Low shelf life or storability of mangoes for sea route transportation to distant markets.
- High transportation cost for export through airways.
- Lack of processing industries in major mango growing belt (UP and Karnataka).

## Policy recommendations for promotion of mango export

- Crop improvement programmes to increase the productivity.
- Protocol for export of mango should be strictly followed.
- Strengthening the extension services for promotion of Good Agricultural Practices.
- Technologies for reducing the pesticide residue level needs to be developed.
- Organic cultivation of mango needs to be promoted besides using bio-pesticides and traps.
- Safe harvesting of mangoes using mango harvesters.
- Organizing mango International trade fair.
- Establishing traceability.
- Capacity and number of pack houses to be increased.
- Sufficient number of irradiation units, vapour heat treatment units and approved pesticide residue analysis labs need to be established.
- Long distance sea transportation variety specific protocols need to be developed.
- More efforts to be taken towards export of mango pulp.
- Promote Private public initiatives to develop the infrastructure, storage, certification and testing procedures and proper hygienic production techniques.
- Capacity building of farmers', processors' and exporters' should be set up to foster the export potential of mangoes of India.

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