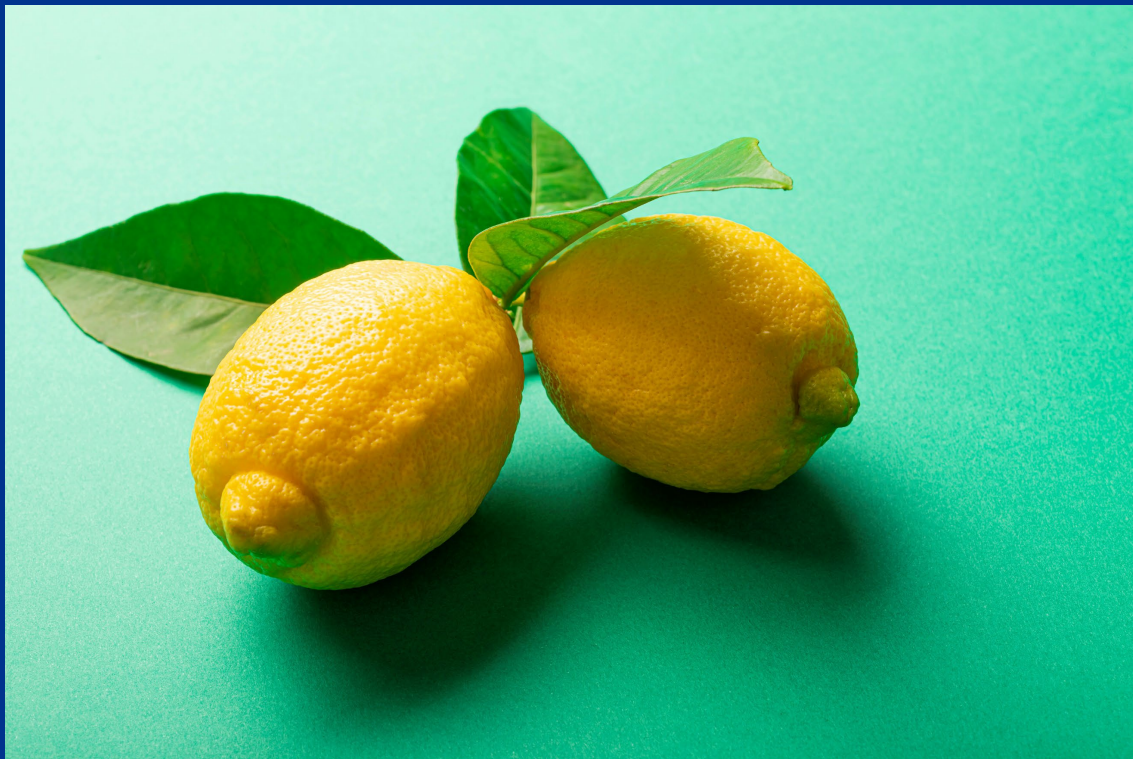


# Market Access Plan for Lemon

## TA-6782 IND: Enhancing Market Linkages for Farmer Producer Organizations

March 2024



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# 1 Crop Background

Lemon is a type of Citrus of the species Citrus Limon (Citrus × limon). The plant is native to Asia, (Northeast India (Assam), Northern Myanmar, and China). Lemon is known for its high Vitamin C content and provides numerous health benefits. It is consumed globally and across India, either as fresh juice or in processed products. Lemon has several culinary and industrial uses. Lemon juice, rind, and peel are used in various foods and drinks. It is also used to make products such as lemonade, soft drinks, marmalade, pickles, lemon curd and lemon liqueur. Lemon zest is used as a flavouring agent for bakery products, rice, and other food items. In terms of the industrial uses, lemon oil is used in aromatherapy and lemons were the first commercial source of citric acid.

## 1.1 Global Scenario

### 1.1.1 Production

India is the largest producer of lemons in the world accounting for ~18% of the global production and 23% of the area. Mexico and China are the second and third largest lemon producers. However, lemon productivity of India is lesser compared to all other countries amongst the list of top 10 lemon producers in the world. United States of America (USA) has the highest productivity, followed by Argentina and Brazil.

S. No.	Country	Production (MT)	Area (MT)	Productivity (MT/ha)
1	India	3,776,000	313,000	12.06
2	Mexico	3,102,046	201,998	15.36
3	China	2,623,202	105,923	24.77
4	Argentina	1,826,356	53,742	33.98
5	Brazil	1,632,109	62,867	25.96
6	Turkey	1,323,000	55,246	23.95
7	United States of America	938,030	23,796	39.42
8	Spain	863,240	52,570	16.42
9	South Africa	779,335	35,273	22.09
10	Iran	508,349	28,636	17.75
<b>11</b>	<b>World</b>	<b>21,564,258</b>	<b>1,336,771</b>	<b>16.13</b>

Source: FAO Stat

India has consistently held the top spot in terms of lemon production in the last five years. In the same period, Mexico and China have been on the second and third position respectively, except for an interchange in 2019.

<b>Countries</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
India	3,148,000	3,482,000	3,687,000	3,548,000	3,776,000
Mexico	2,547,834	2,701,828	2,879,023	2,983,802	3,102,046
China	2,524,315	2,710,716	2,715,611	2,598,649	2,623,202
Argentina	1,989,400	1,676,403	1,150,000	2,015,989	1,826,356
Brazil	1,501,783	1,514,811	1,583,097	1,499,714	1,632,109
Turkey	1,100,000	950,000	1,188,517	1,550,000	1,323,000
Spain	1,087,230	884,890	1,100,470	1,017,360	863,240
United States of America	805,580	909,000	983,390	803,770	938,030
South Africa	474,149	506,769	643,328	656,382	779,335
Iran	501,351	516,190	502,258	506,600	508,349
<b>World</b>	<b>19,494,125</b>	<b>19,816,114</b>	<b>20,560,224</b>	<b>21,585,519</b>	<b>21,564,258</b>

*Source: FAO Stat*

### 1.1.2 Important varieties

Listed below are some of the important varieties of lemon grown across top lemon producing countries in the world.

**China:** Meyer

**Spain:** Verna, Fino, and Eureka

**Argentina:** Genova and Eureka

**USA<sup>1</sup>:** Eureka, Allen, Cascade, Cook, Meek, Thorton, Lisbon, Bradbury, Cavors, Deavor, Hall, Jameson, Ledig, Monore, Prior, Prospect, Strong, Femminelo, Oval, Genova, Brena

### 1.1.3 Global Trade

Despite being the largest producer, India does not rank amongst the top 10 lemon exporters because of huge captive consumption. Mexico, Spain, and Turkey are the biggest lemon exporters in the world.

<b>S. No.</b>	<b>Countries</b>	<b>Quantity (MT)</b>	<b>Value ('000 USD)</b>
1	Mexico	715,778	818,979
2	Spain	648,194	858,575
3	Turkey	590,703	269,879
4	South Africa	557,322	355,982
5	The Netherlands	269,152	435,789
6	Argentina	255,476	159,031

<sup>1</sup> Source: National Horticulture Board, India

S. No.	Countries	Quantity (MT)	Value ('000 USD)
7	Egypt	181,243	65,263
8	Brazil	156,253	152,191
9	United States of America	125,233	200,640
10	United Arab Emirates	67,216	63,357
<b>11</b>	<b>World</b>	<b>4,141,920</b>	<b>4,031,490</b>

Source: FAO Stat

Mexico has consistently held the top spot in terms of lemon exports in the last five years. In the same period, Spain and Turkey have been on the second and third position respectively, except for an interchange in 2018.

Countries	2018	2019	2020	2021	2022
Mexico	733,655	768,619	807,540	773,342	715,778
Spain	603,060	739,999	738,303	706,858	648,194
Turkey	625,269	471,211	468,729	617,363	590,703
South Africa	315,247	349,844	457,886	498,737	557,322
Argentina	268,651	231,697	255,091	256,549	255,476
The Netherlands	227,113	213,944	249,055	262,592	269,152
Brazil	97,502	104,617	119,428	144,944	156,253
United States of America	115,793	123,518	120,467	107,916	125,233
Egypt	25,358	96,207	118,806	131,210	181,243
Chile	88,315	90,255	96,226	102,410	56,278
<b>World</b>	<b>3,592,700</b>	<b>3,674,564</b>	<b>4,029,289</b>	<b>4,159,090</b>	<b>4,141,920</b>

Source: FAO Stat

USA is the largest importer of lemons in the world, followed by the Netherlands and Russia.

S. No.	Countries	Quantity (MT)	Value ('000 USD)
1	United States of America	813,425	972,226
2	The Netherlands	346,882	418,881
3	Russia	264,575	188,033
4	Germany	221,918	380,411
5	Iraq	198,102	60,367
6	France	194,349	253,481
7	Saudi Arabia	150,365	87,938
8	United Kingdom	146,663	173,867
9	United Arab Emirates	140,795	93,521
10	Poland	136,572	160,449
<b>11</b>	<b>World</b>	<b>3,972,655</b>	<b>4,358,352</b>

S. No.	Countries	Quantity (MT)	Value ('000 USD)
<i>Source: FAO Stat</i>			

In the last five years, USA has consistently been the top importer of lemons globally, followed by the Netherlands and Russia.

Countries	2018	2019	2020	2021	2022
United States of America	730,552	793,405	853,090	891,841	813,425
The Netherlands	274,727	254,053	306,316	326,564	346,882
Russia	222,115	225,846	239,432	249,519	264,575
Germany	198,812	212,406	260,680	245,218	221,918
Iraq	162,597	143,335	169,943	216,910	198,102
France	162,486	163,202	173,242	167,883	194,349
United Kingdom	154,811	154,954	167,919	146,846	146,663
Saudi Arabia	122,637	126,861	145,174	132,868	150,365
Poland	123,228	124,661	138,717	139,787	136,572
United Arab Emirates	110,130	104,341	135,947	142,749	140,795
<b>World</b>	<b>3,550,150</b>	<b>3,634,322</b>	<b>3,959,508</b>	<b>4,013,110</b>	<b>3,972,655</b>
<i>Source: FAO Stat</i>					

## 1.2 Indian Scenario

### 1.2.1 Production

In the last five years, lemon production in India has increased by 8% and area under lemon cultivation has increased by 2%.

Year	Production (MT)	Area (ha)	Productivity (MT/ha)
2022-23 (1 <sup>st</sup> Estimate)	3,767,748	311,902	12.08
2021-22	3,776,346	312,662	12.08
2020-21	3,548,387	327,278	10.84
2019-20	3,687,155	322,069	11.45
2018-19	3,482,120	305,229	11.41
<i>Source: Department of Agriculture and Farmers' Welfare, Government of India</i>			

Top five lemon producing states in India are Andhra Pradesh, Gujarat, Madhya Pradesh, Karnataka, and Odisha. Highest area under lemon cultivation is in Gujarat and highest productivity is of Karnataka.



States	Production (MT)	Area (ha)	Productivity (MT/ha)
Andhra Pradesh	903,488	45,174	20.00
Gujarat	637,088	49,542	12.86
Madhya Pradesh	383,970	25,658	14.96
Karnataka	336,579	14,655	22.97
Odisha	288,198	25,723	11.20
Maharashtra	261,737	29,119	8.99
Tamil Nadu	196,180	13,770	14.25
Assam	157,320	15,899	9.89
Telangana	118,832	6,987	17.01
Bihar	114,958	19,312	5.95
<b>Total</b>	<b>3,767,748</b>	<b>311,902</b>	<b>12.08</b>

*Source: Department of Agriculture and Farmers' Welfare, Government of India*

Andhra Pradesh, Gujarat, and Madhya Pradesh have been the top three lemon producing states in the last three years.

2022-23	2021-22	2020-21	2019-20	2018-19
Andhra Pradesh	Andhra Pradesh	Andhra Pradesh	Andhra Pradesh	Gujarat
Gujarat	Gujarat	Gujarat	Gujarat	Andhra Pradesh
Madhya Pradesh	Madhya Pradesh	Madhya Pradesh	Maharashtra	Karnataka
Karnataka	Karnataka	Karnataka	Karnataka	Madhya Pradesh
Odisha	Odisha	Maharashtra	Madhya Pradesh	Maharashtra
Maharashtra	Maharashtra	Odisha	Odisha	Odisha
Tamil Nadu	Tamil Nadu	Assam	Telangana	Telangana
Assam	Assam	Telangana	Assam	Tamil Nadu
Telangana	Telangana	Bihar	Bihar	Assam
Bihar	Bihar	Chhattisgarh	West Bengal	Bihar

*Source: Department of Agriculture and Farmers' Welfare, Government of India*

Maharashtra is amongst the top ten lemon producing states in India accounting for ~7% of the country's production.

Year	Production (MT)	Area (ha)	Productivity (MT/ha)	% of India's
2022-23 (1st Estimate)	261,737	29,119	8.99	6.95%
2021-22	261,791	29,126	8.99	6.93%
2020-21	324,698	33,304	9.75	9.15%
2019-20	415,016	34,057	12.19	11.26%
2018-19	264,773	29,342	9.02	7.60%

*Source: Department of Agriculture and Farmers' Welfare, Government of India*

Within Maharashtra, Jalgaon, Ahmednagar and Solapur are amongst the top three lemon producing districts. Jalgaon and Ahmednagar together account for more than 50% of the state's lemon production.

Districts	Production (MT)	Area (ha)	Productivity (MT/ha)
Jalgaon	98,537	4,860	20.28
Ahmednagar	72,500	7,250	10.00
Solapur	36,666	4,962	7.39
Akola	29,500	2,950	10.00
Beed	14,499	2,900	5.00
Osmanabad	10,360	585	17.71
Pune	8,265	551	15.00
Jalna	7,415	669	11.08
Amravati	4,178	524	7.97
Nanded	3,320	332	10.00
<b>Total</b>	<b>307,050</b>	<b>28,975</b>	<b>10.60</b>

Source: Department of Agriculture, Government of Maharashtra

## 1.2.2 Important Varieties<sup>2</sup>

### India:

**Kagzi Lime (*Citrus aurantifolia*):** Important producing regions are Maharashtra, Andhra Pradesh and Karnataka. Fruits are small to medium, pulp is juicy greenish with strong adherence to the skin; skin yellowish green, thin or papery and shiny. It is mainly used for processing purpose.

**Lemons (*Citrus limon*):** Important producing regions are West Bengal, Assam, and Uttar Pradesh. Fruits are large, ovoid to round, fruits dark green, rind thick adhering to the pulp, moderately juicy and acidic.

### Maharashtra:

Besides Kagzi Lime, acid lime cultivars grown in Maharashtra include Vikram, Pramalini and Sai Sarbati.

## 1.2.3 Trade – International

Lemon exports from India has increased by more than 80% in the last five years. Main export destinations for Indian lemons are Indian subcontinent and the Middle East.

	Quantity (MTs)	Value (INR Crs)
2022-23	21,121	44.57
2021-22	14,486	52.79

<sup>2</sup> Source: National Horticulture Board, India

Table 12: India Exports		
	Quantity (MTs)	Value (INR Crs)
2020-21	18,789	70.04
2019-20	18,524	66.33
2018-19	11,341	45.94

Top 10 Export Destinations for Lemon (in Quantity)				
2022-23	2021-22	2020-21	2019-20	2018-19
Nepal	Nepal	United Arab Emirates	Nepal	Nepal
United Arab Emirates	United Arab Emirates	Nepal	United Arab Emirates	United Arab Emirates
Afghanistan	Oman	Oman	Bhutan	Bhutan
Qatar	Qatar	Qatar	Qatar	Qatar
Saudi Arabia	Afghanistan	Saudi Arabia	Bangladesh	Kuwait
Oman	Saudi Arabia	Afghanistan	Saudi Arabia	Oman
Kuwait	Bahrain	Kuwait	Oman	Bahrain
Bahrain	Singapore	Bahrain	Bahrain	Saudi Arabia
Bangladesh	Maldives	Singapore	Afghanistan	Maldives
Singapore	Iraq	Bhutan	Kuwait	Singapore

Source: Agri Exchange, APEDA

Table 13: Top 10 Export Destinations in 2021-22		
Country	Quantity (MTs)	Value (INR Crs)
Nepal	13,232	6.96
United Arab Emirates	6,238	27.23
Afghanistan	481	2.42
Qatar	241	1.56
Saudi Arabia	164	.85
Oman	143	.76
Kuwait	142	1.29
Bahrain	107	.47
Bangladesh	90	.92
Singapore	68	.24
<b>Total</b>	<b>21,121</b>	<b>44.57</b>

Source: Agri Exchange, APEDA

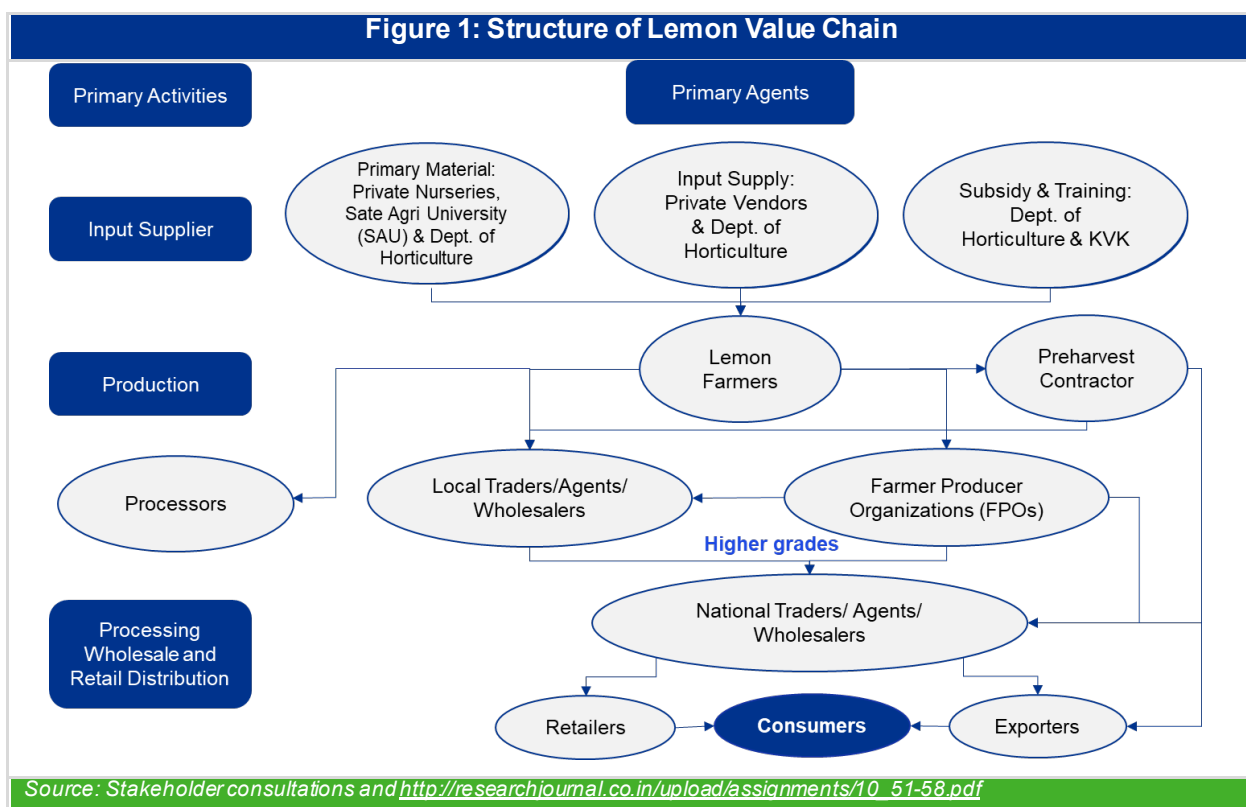
Table 14: Exports Trend for Top 10 Export Destinations (MT)					
Country	2018-19	2019-20	2020-21	2021-22	2022-23
Nepal	7,752	9,928	7,874	6,403	13,232
United Arab Emirates	2,752	7,186	8,950	6,393	6,238
Qatar	117	227	332	272	241

Table 14: Exports Trend for Top 10 Export Destinations (MT)					
Country	2018-19	2019-20	2020-21	2021-22	2022-23
Oman	61	148	463	371	143
Afghanistan		79	168	271	481
Saudi Arabia	40	202	295	270	164
Bhutan	360	323	94		
Bahrain	56	96	140	127	107
Kuwait	66	65	152	46	142
Bangladesh	.10	204	32	50	90
<b>Total</b>	<b>11,341</b>	<b>18,524</b>	<b>18,789</b>	<b>14,486</b>	<b>21,121</b>

Source: Agri Exchange, APEDA

### 1.2.4 Value Chain Map

The structure of lemon value chain in Maharashtra is provided in the figure below.



## 2 Marketing Strategy

Individual farmers and FPOs face issues in accessing profitable markets for their produce. Key challenges for them are their remote locations, high transportation costs, limited market information / knowledge of requirements, and the lack of marketing skills. The following market strategy has been prepared with a focus on providing information that helps FPOs in accessing reliable and profitable markets, while ensuring their produce meets market standards. In addition, it is envisaged that the FPOs have better bargaining power, some of the value chain activities are shifted towards them and there is a win-win situation for both FPOs and associated value chain actors / market players. Also, while providing information on opportunities, associated risks have also been highlighted. Prior to a detailed market segment-wise strategy, some of the common and cross-cutting interventions that are required at the end of FPOs for better market access are given below:

**Commodity resource mapping and Know Your Farmers (KYF):** FPOs should keep information on acreage of cultivable land under different crops, approximate marketable crop available with the farmers in the season, etc. This will help FPOs to have an idea of the volumes to be handled in the season and plan to effectively market their produce eventually.

**Aggregate large volumes of produce:** FPOs can establish long-term business relationship only if they are able to consistently supply sufficient quantity of produce, as per the buyer requirements. FPOs can increase procurement catchment area to consistently meet minimum requirement quantities.

**Flexibility with payment terms:** Many markets function on credit cycle, which can vary from as low as 5-7 days to as high as 30-60 days. FPOs should have sufficient working capital to made credit cycle and farmer payments.

**Have good market intelligence:** FPOs should have good market intelligence to decide on store / sell decisions and to determine which market to send the produce to. Market intelligence can be collected through online sources such as Government data and news articles, and through on-ground network of contacts in different parts of the country. Keeping a tab on market situations in target export markets will help FPOs in market entry and expansion.

**Appointment of manager:** FPOs can appoint a manager for its market linkage business. This will help in better sales planning, coordination with buyers for purchase and payment timelines. It can also appoint a manager for procurement activities. For FPOs to expand its business and supply to more buyers, it is necessary to have strong procurement, and appointment of manager can help in establishing the same.

**Diversify supply options:** All types of markets and customers come with both opportunity and risks for FPOs. This document also details on potential risks that FPOs might face in each market. To mitigate risks, FPOs should ensure that it deals in multiple markets and with multiple customers in each market. In addition, to get quality commensurate pricing, FPOs need to supply each market with its required quality of produce.

This section details out the strategy that the FPOs can adopt to supply lemons in the major market segments, namely, 1) Export Markets, 2) Domestic Markets, 3) Organized retail and eCommerce, 4) HoReCa, and 5) Processors. Key components of this section are:



## 2.1 Export Markets

Regions / countries covered under export markets are those to which lemon is mostly exported from India. Export markets are classified as 1) United Kingdom, 2) The Middle East.

### 2.1.1 United Kingdom<sup>3</sup>

#### 2.1.1.1 Characteristics of the Segment

Lemons are mostly used in processed form in the UK; however, fresh produce trade also happens for direct use and consumption. Fresh lemons enter the UK market through importers, producer groups and large distribution channels of supermarkets. Class I and Extra Class lemons are the main segment, and this is the requirement of supermarkets. Appearance of fruits is the main criterion for the supermarkets. Lemons are also used in food service industry for which taste is more important than appearance. Class II lemons can find market in food service, ethnic shops, and street markets, supplied by wholesalers. However, they are mostly used for processing.

Importers play the main role in the distribution of lemons, and they distribute to different market channels, such as wholesalers or supermarkets as per the demand. Mostly, fresh lemons are sold through

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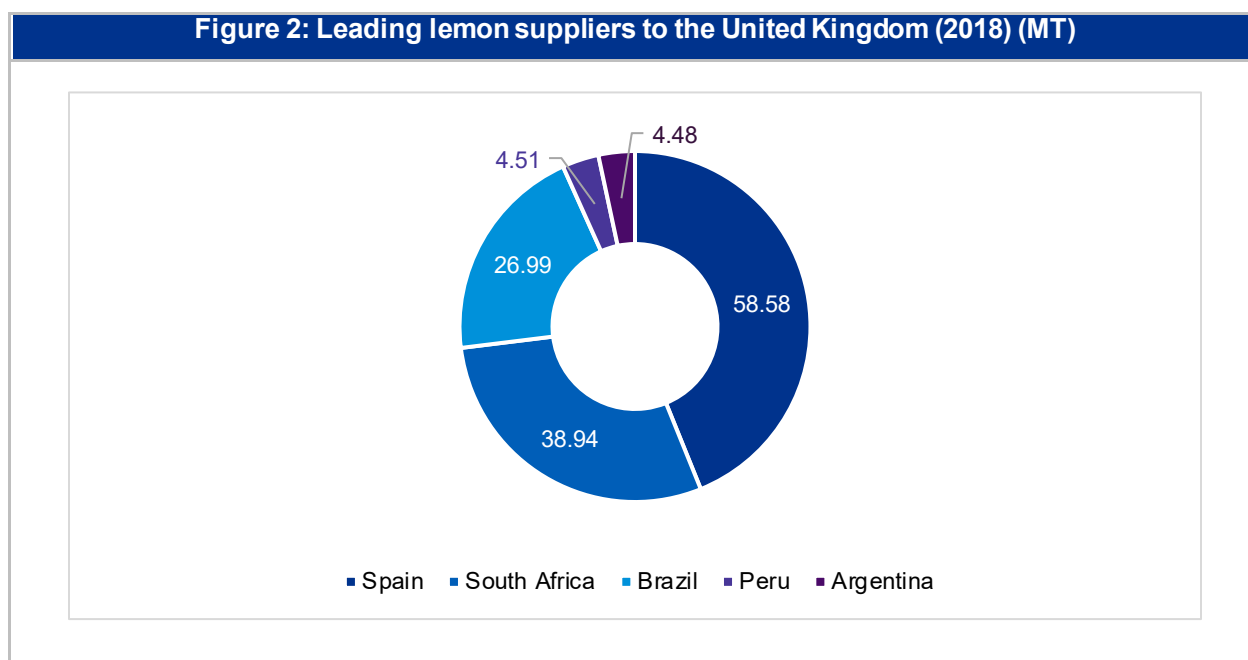
<sup>3</sup> Source: Centre for the Promotion of Imports from developing countries (CBI)

supermarkets. Traditional fruit wholesalers cover the spot market and supply to specialized and ethnic shops, street merchants and restaurants.

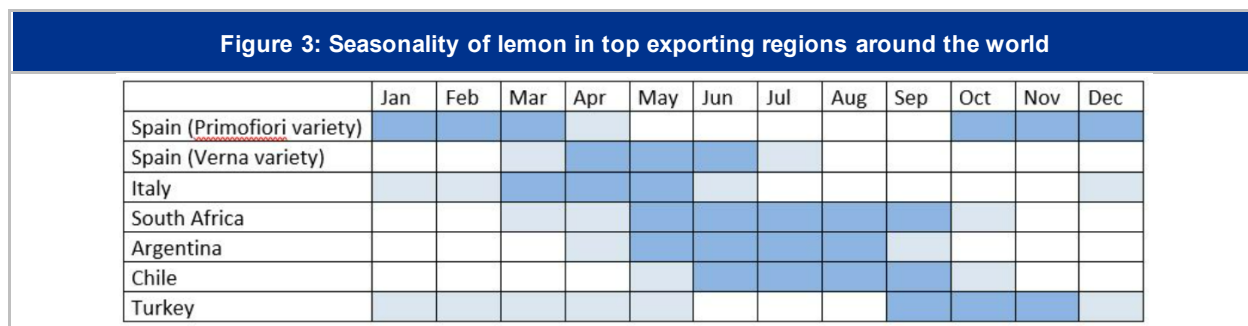
### 2.1.1.2 Competitors

#### Other Countries:

Lemons should adhere to the strict quality requirements to enter the United Kingdom. Spanish suppliers understand this well and dominate the European and UK lemon market. There is a lean supply between June and September from Spain and this opportunity is tapped by South Africa and Argentina followed by Brazil and Peru.



Seasonality of lemon in top exporting regions around the world is provided in the below chart:



<https://apps.fas.usda.gov/psdonline/circulars/citrus.pdf> is one of the sources for keeping information on citrus market across the globe.

## **Within India:**

Besides Maharashtra, major lemon producing states in India are Madhya Pradesh, Karnataka, Gujarat, and Andhra Pradesh.

### **2.1.1.3 Maintaining quality standards and supply**

Bold and green lemons are preferred for export to the UK and other European countries and varietal preference is for Kagzi lemon. Lemons for export are packed in CFB cartons / boxes of mostly 10 Kg capacity costing around Rs. 50-80. United Nations Economic Commission for Europe (UNECE) Standards for exporting lemon are given in [Annexure 3.1](#).

Some of the important certifications in demand for lemons are GlobalG.A.P. for good agricultural practices and BRCGS, IFS or similar HACCP-based food safety management systems for packing and processing facilities and management systems recognized by the Global Food Safety Initiative (GFSI).

There is also a demand for GI and Organic produce in Europe. However, from India, there is limited supply of these products. Such produce can fetch a premium of 40-50% over the domestic market price.

### **2.1.1.4 Pricing**

Landing cost of lemons from Maharashtra in the UK is around Rs. 250 per Kg. Quantities, season, fruit sizes and origin are the main influencers on the lemon prices in the UK and Europe. There is a difference between European and non-European lemon prices. Wholesale prices for imported counter seasonal lemons are higher due to higher transport costs. Wholesale price for lemons in the UK can range between Rs. 200-300 per Kg and retail price can range between Rs. 250-320 per Kg. Organic lemons can fetch a price premium of 30-40% above the general market rates.

## **2.1.2 Middle East**

The Middle East is a geographical region consisting of a group of countries including Saudi Arabia, UAE, Kuwait, Qatar, Oman, Bahrain, Yemen, Iran, Iraq, Turkey, Jordan, Israel, Egypt, Algeria, and few other surrounding countries.

### **2.1.2.1 Characteristics of the Segment**

Middle Eastern countries have traditional consumption habits for lemons as part of their cuisine. India is a major importer of lemons for the Middle East in general and UAE in particular. Some of the important destinations for Indian lemons in the Middle East are UAE (Dubai), Qatar, Oman, and Saudi Arabia.



### 2.1.2.2 Competitors<sup>4</sup>

Main competitor for lemon supply to the Middle East is China. China, being in proximity, and through the Central Asia Railway, can transport lemons to the Middle Eastern countries easily and timely. The lemons produced in China have a price advantage and the less distance reduces the logistics cost, which makes the produce more cost-effective. Other competing countries are Turkey and Iran.

### 2.1.2.3 Maintaining Quality Standards and Supply

Bold and green lemons are preferred for export to the Middle East and varietal preference is for Kagzi lemon. Lemons are exported via sea route to the Middle East. In the current value chain, main post-harvest activities undertaken by the suppliers of exporters are sorting & grading and supplying the produce in refer trucks. Activities undertaken by the exporters are washing, grading, packaging, and precooling before shipping. Packaging material used for exporting lemons is Corrugated fiberboard (CFB) cartons / boxes. 4-5 Kg or 6 Kg capacity boxes are used costing approximately Rs. 40 and Rs. 55-60 respectively.

### 2.1.2.4 Pricing<sup>5</sup>

The retail price range for lemon in UAE is between Rs. 120 and Rs. 300 per Kg. In 2024, the approximate wholesale price range for lemon in UAE is between Rs. 85 and Rs. 220 per Kg. The landing price for lemons from Maharashtra is between Rs. 120-150 per Kg. From the Nhava Sheva port, the shipping cost is around Rs. 30 per Kg and transit time is 8-10 days. The suppliers of export quality lemons can fetch a premium price which is 20-25% higher than the domestic market prices.

## 2.1.3 Establishing Connects

To export produce it is necessary to understand the major export routes and to establish connects with relevant companies / personnel. The selection of export route for an FPO should be done as per the quality of produce available for export, human capital to handle export related compliances, financial capabilities, and risk-taking ability.

Exports can be done through two routes:

Export Route	Description
Through an exporter from India	Companies / individuals specialize in exporting of agriculture and horticulture commodities to specific export markets. FPOs can supply produce as per required quality specifications to the exporters. The exporters buy the products from FPOs and then exports the products.

<sup>4</sup> Source: Fresh Plaza

<sup>5</sup> <https://www.selinawamucii.com/insights/prices/united-arab-emirates/lemon/#market-insights>

Export Route	Description
Through an importer at the importing country	FPOs can identify importers in the importing country. Importers are companies / individuals that obtained the necessary permissions in the importing country to import specific agriculture and horticulture commodities

Export Route	Establishing Connects
Through an exporter from India	<ul style="list-style-type: none"> <li>● Trade fairs (physical and virtual) conduct by APEDA. Details are published on <a href="http://apeda.gov.in">International Trade Fair (apeda.gov.in)</a> <a href="https://apeda.gov.in/apedawebsite/trade_promotion/International_trade_event">https://apeda.gov.in/apedawebsite/trade_promotion/International_trade_event</a></li> <li>● Other National Trade Fairs conducted by various Organizations / Association. These events are published on various platforms such as: <ul style="list-style-type: none"> <li>○ <a href="https://krishijagran.com/events">https://krishijagran.com/events</a></li> <li>○ <a href="https://www.kisaanhelpline.com/agriculture-events">https://www.kisaanhelpline.com/agriculture-events</a></li> <li>○ <a href="https://www.2exhibitions.com/agriculture-and-forestry/">https://www.2exhibitions.com/agriculture-and-forestry/</a></li> </ul> </li> <li>● Online trade websites such as <a href="http://www.indiamart.com">www.indiamart.com</a> and <a href="http://www.exportersindia.com">www.exportersindia.com</a></li> <li>● Buyer-Seller meets organized under the MAGNET project</li> </ul>
Through an importer at the importing country	<ul style="list-style-type: none"> <li>● Trade fairs (physical and virtual) conduct by APEDA. Details are published on <a href="http://apeda.gov.in">International Trade Fair (apeda.gov.in)</a> <a href="https://apeda.gov.in/apedawebsite/trade_promotion/International_trade_event">https://apeda.gov.in/apedawebsite/trade_promotion/International_trade_event</a></li> <li>● Other National Trade Fairs conducted by various Organizations / Association. These events are published on various platforms such as: <ul style="list-style-type: none"> <li>○ <a href="https://krishijagran.com/events">https://krishijagran.com/events</a></li> <li>○ <a href="https://www.kisaanhelpline.com/agriculture-events">https://www.kisaanhelpline.com/agriculture-events</a></li> <li>○ <a href="https://www.2exhibitions.com/agriculture-and-forestry/">https://www.2exhibitions.com/agriculture-and-forestry/</a></li> </ul> </li> <li>● International Trade Fairs such as: <ul style="list-style-type: none"> <li>○ Fruit Logistica: yearly event at Berlin, Germany is one of the most important events for fruit trade across the world</li> <li>○ Asia Fruit Logistica: yearly event conducted in Asia – at Hong Kong / Bangkok</li> <li>○ Fruit Attraction: yearly event at Madrid, Spain</li> </ul> </li> <li>● International events on horticulture trade are regularly published on the website of CBI – a centre for promotion of imports from developing countries to Europe. <a href="http://www.cbi.eu/events">www.cbi.eu/events</a></li> </ul>

Export Route	Establishing Connects
	<ul style="list-style-type: none"> <li>• <a href="http://www.freshplaza.com">www.freshplaza.com</a>, and <a href="https://www.hcsingapore.gov.in/events">https://www.hcsingapore.gov.in/events</a> also provides an event calendar on important global fairs for horticulture crops</li> </ul>

#### 2.1.4 Advantages and Risks Associated

Each export route mentioned in the above sub-section comes with its risks. Not each export route is suitable for all FPOs, and it is necessary for FPOs to understand the risks before pursuing exports through any of these routes.

Export Route	Risks / Disadvantages	Advantages
Through an exporter from India	<ul style="list-style-type: none"> <li>• Significant margin from the final export price is taken by the exporter</li> <li>• FPOs cannot make significant export-oriented investments as export orders may not be assured. Exporters can procure equivalent quality from any other seller at lower prices, if available</li> </ul>	<ul style="list-style-type: none"> <li>• Exporting through this route is suitable for all FPOs, especially for FPOs that handle small quantities</li> <li>• Payment terms from exporters to FPOs can be for shorter credit time</li> <li>• Export compliance is handled by the exporter – only quality adherence is taken care by FPOs</li> </ul>
Through an importer at the importing country	<ul style="list-style-type: none"> <li>• FPO should be able to send the minimum required quantity per consignment consistently. This is possible only through strong procurement (from its member farmers, and other growing regions)</li> <li>• Payment default by importers in case the FPO does not take precautionary measures like Letter of Credit</li> <li>• Credit timelines for payment from the importer can be as high 30 to 60 days</li> <li>• FPO requires proper and complete knowledge on export compliance requirements of the importing country</li> </ul>	<ul style="list-style-type: none"> <li>• Higher margins</li> <li>• Long-term business opportunity. FPO can become an exporter for other FPOs / market players</li> <li>• Increased exports through volume and by adding other crops in which the FPO is dealing</li> </ul>

Export Route	Risks / Disadvantages	Advantages
	<ul style="list-style-type: none"> <li>Rejection of consignment by importing country – shortfall in compliances. Especially for European markets</li> </ul>	

## 2.2 Domestic Markets

Domestic markets here are the private traders and processors and Government notified *Mandis* across the country. In case of lemons, majority farmers sell produce directly to traders in their catchment or to the traders in government APMC markets, orchard selling is uncommon. These traders further sell to wholesalers, processors, local retailers, exporters, B2B companies and organized retailers. Main sourcing regions are Ahmednagar, Pune, Jalgaon, Solapur, Akola, Amravati, and Beed. Peak and lean months of supply of lemon from two of the important districts is given below.

S. No.	District	Months of PEAK supply	Months of LEAN supply
1	Solapur (Barshi taluka), Pune	June, July	March, April, May
2	Ahmednagar (Shrigonda, Karjat, Jamkhed taluka), Jalgaon	June, July / Aug-Sep	March, April, May

### 2.2.1 Characteristics of the Segment

Kagzi lemon is the first preference of majority buyers in the domestic trade from Maharashtra. Below table provides the buyer-wise quality requirements, varietal preference, credit period and premium that can be fetched from targeting the specific sub-segments.

Buyers	Quality Requirements	Varietal Preferences	Credit period (days)	Premium (%)
Wholesalers / Local Retailers	A and B grade	Kagzi lemon is 1 <sup>st</sup> preference followed by Sai sarbati variety	7	10
APMC mandis outside Maharashtra	A, B and C grade	Kagzi lemon, Sai sarbati and other local varieties	7-15	10-15
Exporters	A grade	Kagzi lemon, Sai sarbati variety	15-30	15-18

Other major domestic markets (outside Maharashtra) to which lemon from Maharashtra goes, along with the quality requirements and varietal preferences of these markets are provided below.

S. No.	Major Markets	Quality Requirements	Varietal Preferences
1.	Bijapur, Karnataka	A, B & C grade	Kagzi lemon is first preference, however, all types of lemons sell here
2.	Surat, Vadodara, Ahmedabad, Gujarat	A, B & C grade	Kagzi lemon is first preference, however, all types of lemons sell here
3.	Punjab, Haryana, Delhi, Rajasthan	A, B & C grade	Kagzi lemon is first preference, however, all types of lemons sell here

Demand for organic lemon also exists but the supply is limited.

### 2.2.2 Competitors

The main competition for the domestic trade of lemon in Maharashtra comes from Karnataka, Telangana, and Gujarat. The table below summarizes the location-wise sourcing months and reasons thereof.

Place, State	Months	Reason for sourcing
Bijapur, Karnataka	April-May, August-September	High price within Maharashtra due to shortage in supply
Hyderabad, Telangana	April-May	High price within Maharashtra due to shortage in supply
Gujarat	August-September	High price within Maharashtra due to shortage in supply

### 2.2.3 Maintaining Quality Standards and Supply

Following activities need to be done as part of the post-harvest handling of lemons to ensure better price realization.

Activity	Average cost of the activity
Washing / Cleaning	Rs. 0.5-1 per Kg

Activity	Average cost of the activity
Sorting and Grading (Manual) [Mechanical sorting and grading can also be done]	0.5-1 Rs per Kg
Packaging (package + labour cost)	<ul style="list-style-type: none"> <li>• Domestic market (20 Kg capacity CFB box having good thickness): Rs. 60 to 70 per box</li> <li>• Domestic market (20 Kg capacity crates): Rs. 200-350 crate</li> <li>• Domestic market (40 Kg capacity gunny bags): Rs. 20-30 per bag</li> <li>• Exports (10 Kg capacity box having good thickness): Rs. 50-80 per box</li> <li>• Labor cost: Rs. 1 per Kg</li> </ul>
Pre-cooling	This is suggested but is not a common practice. If adopted, the cost will be Rs. 4-5 per Kg
Cold Storage	This is suggested if storage is needed for minimum 60-90 days before selling. If adopted, the cost will be Rs. 3-5 per Kg
Waxing	Not a common practice in domestic market. However, it can help in increasing shelf-life
Reefer truck transport	Not a common practice in domestic market. Mostly adopted for export consignments. Can cost Rs. 3-4 per Kg

It is suggested that the FPOs undertake tasks of cleaning, grading, sorting, cold storage (if not selling immediately) and waxing for getting better prices. On the production side, good pest, disease, and fertilizer management are expected for getting better prices.

#### 2.2.4 Pricing

As discussed earlier, lemon from Maharashtra goes to both Northern and Southern Indian states. Road transportation time for supplying lemon to North India (Delhi and Jaipur) is 24-36 hours and estimated logistics cost could be Rs. 4-6 per Kg for a truck load of 15 MT. For South India (Coimbatore and Bangalore), supplying time is up to 24 hours and cost could be Rs. 3-5 per Kg.

Quality specifications-wise price range for various grades of lemon in the market are given in the below table:

Grades	Quality Specifications	Price range in peak months (INR)	Price range in lean months (INR)
A	Above 30 mm per lemon size, 25-35 pieces per Kg	80-100 per Kg	150-180 per Kg

Grades	Quality Specifications	Price range in peak months (INR)	Price range in lean months (INR)
B	25-30 mm per lemon size, 40-50 pieces per Kg	40-60 per Kg	120-150 per Kg
C	Badla (low quality)	5-10 per Kg	30-40 per Kg

Farmer price is 15-20% lesser than the market rates under all grades. However, during excessive supply period, the difference between grade-wise price realization gets blurred.

### 2.2.5 Establishing Connects

Agriculture / horticulture commodities focused marketplace platforms are effective tool for FPOs to find buyers across the country. Trading option for lemon is available on **Bijak** mobile application. Online B2B platforms / trade websites such as [www.enam.gov.in](http://www.enam.gov.in), [www.farmerconnect.apeda.gov.in](http://www.farmerconnect.apeda.gov.in), [www.kisanmandi.com](http://www.kisanmandi.com), [www.farmersmandi.in](http://www.farmersmandi.in), [www.indiamart.com](http://www.indiamart.com) and [www.tradeindia.com](http://www.tradeindia.com) can also be used for listing of lemons.

### 2.2.6 Advantages and Risks Associated

Selling to major domestic markets decreases the price risk significantly. When prices are low in nearby markets, FPOs can sell their produce to other domestic markets wherever feasible. Consistent supply to major domestic markets is necessary for FPOs to build long-term relationship with buyers. This acts as a significant hedge against price variations in the nearby markets.

Risk of delayed payments or payment defaults is higher when selling to distant domestic markets in comparison to selling in nearby markets. FPOs should also be able to send a complete truck load for optimal logistics cost, thereby should have strong procurement and consistent supply.

## 2.3 Processors

Processors are manufacturing units of secondary or tertiary processed products of lemon. They can be big processing units, MSMEs or cottage industries.

### 2.3.1 Characteristics of the Segment

Some of the key products made from lemon in Maharashtra are lemon concentrate, juice, and pickles. For lemon concentrate, the processors mostly source lemons from the districts such as Nashik, Satara, Ahmednagar, Jalgaon, Solapur, Amravati, Akola, Nagpur and Wardha. The processors buy lemons mostly

from traders, followed by farmers / FPOs and aggregators. While the farmers / FPOs give a more reasonable rate, the traders and aggregators can supply consistently to the processing industry. Thus, the preference is for traders and aggregators.

### 2.3.2 Competitors

Processors in Maharashtra also source lemons from the states like Chhattisgarh, Punjab, and Himachal Pradesh to ensure consistent supply at cheaper rates. The below table summarizes the state-wise supply months and reasons for sourcing from the concerned states.

S. No.	States	Months of supply from that State	Reasons for procuring from the State
1	Chhattisgarh	Dec, Jan, Feb, March	Fulfilling requirement of processing industry like adequate quantity and cheaper price
2	Punjab	Dec, Jan, Feb, March	Low industrial area in Punjab as compared to Maharashtra that is why they are supplying lemon as a raw material
3	Himachal Pradesh	Dec, Jan, Feb, March	Low industrial area in Himachal Pradesh as compared to Maharashtra that is why they are supplying lemon as a raw material

### 2.3.3 Maintaining Quality Standards and Supply

To create a strong forward linkage with processors, the farmers / FPOs need to consistently supply the required quality of lemons at reasonable rates. Lower (C grade) of Kagzi lemon and other seedless high pulp content varieties are preferred for concentrate and juice making.

### 2.3.4 Pricing

Processors source lemons mainly in the peak season when the market prices are low. For pickle making, processors purchase lemons mostly when the rate is very low, in the month of June. The rate in this month for processing quality lemon is Rs. 10 to 15 per Kg. For concentrate and juice, the rate at which sourcing is done is Rs. 20-30 per Kg. FPOs should note that the credit period while working with the processors, ranges between 15-30 days. Below table summarizes the seller-wise credit terms with processors.

Seller	Credit Terms
Farmers / FPOs	50% payment at the time of lemon delivery and 50% payment after 7-30 days



Seller	Credit Terms
Aggregators / Traders	Similar terms as above. However, if there is excess supply, then the credit period is less (Up to 7 days). If the supply is less, aggregators / traders sometimes take 50% advance and remaining 50% is paid in 15-30 days

### 2.3.5 Establishing Connects

FPOs can supply lemons to processors in its region (district and surrounding districts). FPOs can try to establish connects with this market segment by:

- Approaching processors in their region directly
- Through mutual connects who supply to such companies
- Listing on online trade websites such as [www.indiamart.com](http://www.indiamart.com) and [www.tradeindia.com](http://www.tradeindia.com)
- Various Government Departments / schemes conduct Buyer-Seller meets. FPOs can meet representatives from companies in this segment
- MAGNET project's Buyer-Seller meets. These Buyer-Seller meets offer platform for FPOs to interact with various market players including Processors

### 2.3.6 Advantages and Risks Associated

Long-term business association with processors ensures a steady market for the lower grade lemon produce. Supply to processors can be done in batches as and when sufficient quantity of required quality lemons is available with the FPO. Logistics cost can be minimized by doing batch transportation.

Processors usually function on long credit cycles from 15-30 days, leading to payment default risk. Industrial processing units may procure in large quantities. Though this might provide FPOs with a large business opportunity, this increases the risk of over dependence on single / handful of customers.

## 2.4 Organized Retail and eCommerce

Organized retail and eCommerce are a fast-growing marketing channels for lemons. Organized retail includes large national retail players like Reliance, More, and D Mart, and other regional retail companies. Major eCommerce companies dealing in lemons are BigBasket, Swiggy, Amazon, and Flipkart.

### 2.4.1 Characteristics of the Segment

Fruits & Vegetables retailing in India is slowly renovating with organized players reworking on their supply chain model at every step of the value chain to streamline it further. The organized retail and eCommerce

market targets the mid-premium to premium consumer categories. Hence, there is significant focus on quality of the produce.

The companies in this market usually procure from Mandis and from traders / village-level aggregators. Over the recent years, there is significant focus from these companies to procure directly from farmers / FPOs to reduce costs and have more control over quality. With this aim, many retail outlets have setup own facilities and collection centers in fruits & vegetables catchment areas in Maharashtra also.

Some retail chains buy directly from farmers while most of them prefer designated vendors who buy fruits and vegetables on their behalf. The major collection centers of retail chains are located at Nashik, Narayangaon and Moshi in Pune, and Sangola in Solapur.

### 2.4.2 Competitors

FPOs looking to supply to customers in this segment are competing with *Mandis* and traders across the country. These customers procure across the country, where required quality at the right price is available.

### 2.4.3 Maintaining Quality Standards and Supply

Organized retail and E-commerce platforms prefer buying Grade A and Grade B lemons and Kagzi lemon is the preferred variety. The key to establish business relationship with this market is to consistently supply the required quality of lemons. The quality parameters for lemon varieties for supplying to this market segment are mentioned below.

Parameter	Quality specifications
Size	35-40 mm per lemon
Colour	Pale green-Greenish yellow
Rejection criteria	Rotten, immature, fungal infestations, spots, punctured, over mature

### 2.4.4 Pricing

The pricing for this category is dependent on the prevalent domestic market prices. Since these customers procure from different States to meet their demand, they can easily offset price increase in one market with procurement from another market. At the time of moderate supply, the delivered price at collection centers may range between Rs. 100-120 per Kg. During excess supply, this may drop to Rs. 30-40 per Kg. Organized players generally do spot payment to the farmers / FPO, however, with some companies, it may range from 24 hours-7 days.

### 2.4.5 Establishing Connects

FPOs can try to establish connects with this market segment by:

- Through procurement centers of companies in surrounding region
- Through mutual connects who supply to such companies
- Listing on online trade websites such as [www.indiamart.com](http://www.indiamart.com) and [www.tradeindia.com](http://www.tradeindia.com)
- Various Government Departments / schemes conduct Buyer-Seller meets. FPOs can meet representatives from companies in this segment
- MAGNET project's Buyer-Seller meets. These Buyer-Seller meets offer platform for FPOs to interact with various market players including Organized retailers and eCommerce players
- Following websites give details on different events including Buyer-Seller meets that happen across the country:
  - <https://krishijagran.com/events>
  - <https://www.kisaanhelpline.com/agriculture-events>
  - <https://ficci-web.com/events>
  - <https://www.2exhibitions.com/agriculture-and-forestry/>

### 2.4.6 Advantages and Risks Associated

FPOs that have / can invest in building good post-harvest infrastructure can get good value for their Grade A and B lemons. This segment is growing rapidly, hence making good business relationship with customers of this segment can lead to long term benefits for FPOs. Some companies in these segments also invest in capacity building and post-harvest infrastructure, which the FPOs can leverage. FPOs can enter formal contracts with these customers and sell at profitable prices at reduced risk. Payment default risk is lower with these customers.

These customers function on credit terms, though credit terms can be as short as 7 days. Some retail players have payments terms of 24 hours or 2-3 days only. Rejections and price cuts due to quality issues can be common occurrence as they can have strict quality norms. Since these customers procure from different lemon production regions and numerous buyers, the pricing power with FPOs is low during negotiations.

## 2.5 HoReCa

Hotels, Restaurants and Cafes (HoReCa) segment accounts for a very small proportion of lemon consumption in India. This segment also includes different types of eateries.

### 2.5.1 Characteristics of the Segment

Lemons are used as an important ingredient in various food items in India. HoReCa segment is a highly price sensitive market but mostly less demanding in terms of quality. The segment currently procures from processors / traders. The demand from this segment is higher during festivals, wedding seasons, and other occasions.

### 2.5.2 Competitors

For an FPO looking to supply to customers in the HoReCa segment, its competitors are the local traders and processors. The HoReCa customers also tend to have long-standing relationship with select suppliers as the suppliers understand their day-to-day requirements.

### 2.5.3 Maintaining Quality Standards and Supply

While generally lower grades of lemons are consumed in this segment, there can be some demand of superior grades in the high-end hotels and restaurants.

FPOs can target for supplying to these customers only if they can sort and grade their produce and need market channel for lower grades / forms. Most customers in this segment are less quality conscious and hence can be supplied lower grade lemons. However, the requirement for lemons from this segment customers is steady throughout the year which further necessitates the processing and storage capacities.

This segment should be targeted mainly for supply in small quantities and at regular intervals. Based on the FPOs' understanding of the proportion of lower grades it has after sorting and grading, it can fix a certain number of customers to supply. Supply should be ideally done in restricted geography due to low order quantity, and frequent deliveries.

### 2.5.4 Pricing

In accordance with the quality requirement of this segment, the customers are price sensitive. FPOs may not be able to charge premium pricing for their supply consistency and quality standards. FPOs should also account in for the cost they would incur when delivering to these customers. Low quantities with frequent deliveries that is required by this segment can lead to high logistics cost.

### 2.5.5 Establishing Connects

As discussed in the sub-section above, the target customers in this segment are those within a radius of 10-15 kms around the FPOs' processing / storage facility. Establishing connects with this market is either through mutual contacts or through directly approaching potential customers.

### 2.5.6 Advantages and Risks Associated

HoReCa segment is a good channel, to sell low grade lemons, for FPOs that do grading and sorting of their produce. The customers in this segment also have consistent and predictable demand that can help the FPOs for easy planning. The risk of non-payments is minimized as the daily purchase volume per customer is low. Since the customers are highly price sensitive, this channel cannot be used for reducing price risk.

### 3 Annexure

#### 3.1 Annexure 1: UNECE Standard for exporting lemon

##### Minimum requirements:

The development and condition of the citrus fruit must be such as to enable it:

- to withstand transportation and handling
- to arrive in satisfactory condition at the place of destination

The citrus fruit must be:

- intact
- free of bruising and/or extensive healed overcuts
- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded
- clean, practically free of any visible foreign matter
- practically free from pests
- free from damage caused by pests affecting the flesh
- free of signs of shrivelling and dehydration
- free of damage caused by low temperature or frost
- free of abnormal external moisture
- free of any foreign smell and/or taste

##### Maturity requirements:

The citrus fruit must be sufficiently developed and display satisfactory maturity and/or ripeness, account being taken of criteria proper to the variety, the time of picking and the growing area. Maturity of citrus fruit is defined by the following parameters specified for each species below:

- minimum juice content
- minimum total soluble solids content, i.e. minimum sugar content
- minimum sugar/acid ratio
- coloring

The degree of coloring shall be such that following normal development the citrus fruit reach the color typical of the variety at their destination point

	Minimum juice content (%)	Minimum sugar content (° Brix)	Minimum sugar/acid ratio	Coloring
Lemons	20	-	-	Must be typical of the variety. Fruit with a green (but not dark green) color are allowed, provided they satisfy the minimum requirements as to juice content

Citrus fruit meeting these ripeness requirements may be “degreened”

### “Extra” Class

- Citrus fruit in this class must be of superior quality and characteristic of the variety
- They must be free from defects, with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package

### Class I

- Citrus in this class must be of good quality and must be characteristic of the variety and/or commercial type
- The following slight defects, however, may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:
  - Slight defect in shape & coloring
  - Slight skin defects occurring during the formation of the fruit, such as silver scurfs, russets, etc
  - Slight healed defects due to a mechanical cause such as hail damage, rubbing, damage from handling, etc.
- The defects must not, in any case, affect the pulp of the fruit

### Class II

- This class includes citrus fruits that do not qualify for inclusion in the higher classes but satisfy the minimum requirements specified above
- The following defects may be allowed, provided the citrus fruit retain their essential characteristics as regards the quality, the keeping quality and presentation:
  - Defect in shape, defect in coloring,
  - Skin defects occurring during the formation of the fruit, such as silver scurf's, russets, etc.
  - Healed defects due to a mechanical cause such as hail damage, rubbing, damage from handling etc.
  - Rough skin, superficial healed skin alterations, slight and partial detachment of the peel.

### Size requirements:

Size is determined by the maximum diameter of the equatorial section of the fruit or by count

- Minimum Size

Fruit	Diameter (mm)
Lemons	45

- Uniformity

Citrus fruit may be sized by one of the following options:

- (a) To ensure uniformity in size, the range in size between produce in the same package shall not exceed:
- 10 mm, if the diameter of the smallest fruit (as indicated on the package) is < 60 mm
  - 15 mm, if the diameter of the smallest fruit (as indicated on the package) is ≥ 60 mm but < 80 mm
  - 20 mm, if the diameter of the smallest fruit (as indicated on the package) is ≥ 80 mm but < 110 mm
  - There is no limitation of difference in diameter for fruit ≥ 110 mm

(b) When size codes are applied, the codes and ranges in the following tables must be respected:

	Size code	Diameter
Lemons	0	79 - 90
	1	72 - 83
	2	68 - 78
	3	63 - 72
	4	58 - 67
	5	53 - 62
	6	48 - 57
	7	45 - 52

Uniformity in size is achieved by the above-mentioned size scales, unless otherwise stated as follows: For fruit in bulk bins and fruit in sales packages of a maximum net weight of 5 kg, the maximum difference must not exceed the range obtained by grouping three consecutive sizes in the size scale.

**Provisions concerning tolerance:**

**Quality tolerance parameters:**

**“Extra” Class**

- **5% by number or weight** of Citrus fruits not satisfying the requirements of the class, but meeting those of Class I or, exceptionally, coming within the tolerances of that class

**Class I**

- **10% by number or weight** of Citrus fruits not satisfying the requirements of the class, but meeting those of Class II or, exceptionally, coming within the tolerances of that class

**Class II**

- **10% by number or weight** of Citrus fruits satisfying neither the requirements of the class nor the minimum requirements, except for produce affected by rotting, major imperfections or any other deterioration rendering it unfit for consumption

**Classification-wise Size tolerance parameters:**

**For All classes**

- 10% by number or weight of citrus fruit corresponding to the size immediately above and/or below that indicated on the package is allowed
- For lemons, tolerance of 10 percent applies only to fruit not smaller than 43 mm diameter



## Provisions concerning presentation:

### Uniformity

- Contents of each package must be uniform and contain only citrus fruit of the same origin, variety, and quality
- Visible part of the contents of the package must be representative of the entire contents
- Uniformity of coloring is required for "Extra" Class

### Packaging

- Citrus fruit must be packed in such a way as to protect the produce properly
- Materials used inside the package must be clean, and of a quality such as to avoid causing any external or internal damage to the produce
- The use of materials, particularly of paper or stamps bearing trade specifications is allowed, provided the printing or labelling has been done with non-toxic ink or glue
- Stickers individually affixed to the produce shall be such that, when removed, they neither leave visible traces of glue, nor lead to skin defects. Information lasered on single fruit should not lead to flesh or skin defects
- Containers shall meet the quality, hygiene, The use of any substance tending to modify the natural characteristics of the citrus fruit, especially in taste or smell is prohibited and resistance characteristics to ensure suitable handling, shipping and preserving of the orange. Packages must be free of all foreign matter and smell

## Provisions concerning marking:

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside:

### A. Identification

- Packer and/or dispatcher/exporter
- Name and physical address (e.g. street/city/region/postal code and, if different from the country of origin, the country) or a code mark officially recognized by the national authority

### B. Nature of produce

Common name of the species if the produce is not visible from the outside

### C. Origin of produce

- Country of origin and, optionally, district where grown, or national, regional or local place name
- In the case of a mixture of citrus fruit of distinctly different species of different origins, the indication of each country of origin shall appear next to the name of the species concerned

### D. Commercial specifications

- Class
- Size expressed as:
  - Minimum and maximum size (in mm)
  - Size code
  - Count
- Post-harvest treatment (optional, based on the national legislation of the importing country)