



Onions (*Allium cepa*)



Prepared by the
International Short-term Expert
Dr Raghu Chaliganti
on behalf of the German project implementation consortium of



January 2, 2022

Global Trade – India’s Role

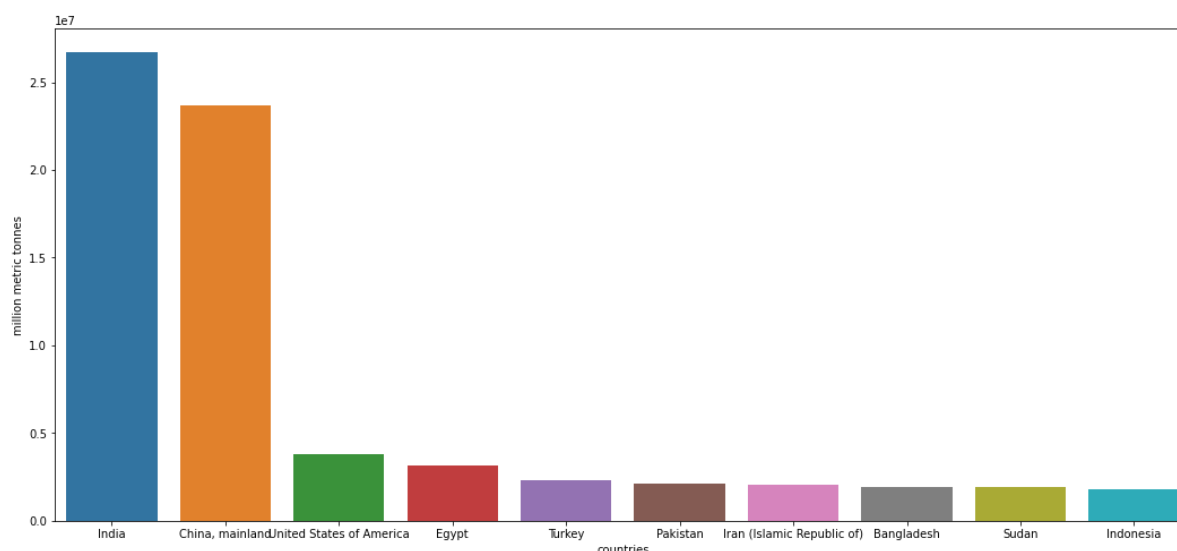


Figure 1. Major onion producing countries in 2019 (FAOSTAT 2021ⁱ)

- In 2020, India was the world’s largest onion producing country, contributing more than 24% of total world production with 26.7 million metric tonnes (FAOSTAT 2021, Tridge 2021).
- Netherlands was the world’s largest onion exporter with a global share of 21.07% (US\$ 815.15 million), USA was the largest onion importer with a share of 13.4% (US\$ 472.04 million) in 2020.

Table 1. Top five global onion exporters in 2020 (Tridge 2021ⁱⁱ)

Country	Export Share 2020 (%)	Export Value in 2020 (US\$ million)	Export Growth Value from 2017-20 (%)
Netherlands	21.07	815.51	+52.46
China	12.80	495.49	-2.44
Mexico	10.96	424.09	+13.44
India	8.96	346.77	-18.07
USA	6.47	250.42	+13.84

Table 2. Top five global onion importers in 2020 (Tridge 2021)

Country	Import Share in 2020 (%)	Import Value In 2020 (US\$ million)	Export Growth value 2019-20 (%)
USA	13.34	472.40	+8.16
Malaysia	5.97	211.34	+21.47
UK	5.66	200.55	+12.42
Germany	5.23	185.28	+23.37
Bangladesh	4.77	168.94	+196.67

- In 2020, India’s onion global export share was 8.96%, with a value of US\$ 346.7 million. From 2017 to 2020, growth in export value declined to -18%.
- In 2020, India imported onions with a value of US\$ 68 million. From 2015 to 2020, onions’ growth in import value increased more than 100%. Primary supplies come from Afghanistan shares 31% of the total value of onion imports to India, followed by Turkey 28%, Egypt 24% and others.

Table 3. India’s onion import trend in 2020

Partner	Import Share in 2020 (%)	Import Value In 2020 (US\$ million)	Import Growth value 2019-20 (%)
Afghanistan	31.34	21.31	-9.97
Turkey	28.6	19.44	+262.67
Egypt	24.05	16.35	+216.04
UAE	7.48	5.08	+8.56
Netherlands	3.41	2.32	-

- South Asian and Middle Eastern countries are among the major importers of Indian onions, such as Bangladesh with 26.7%, Malaysia with 16.6% and UAE with 11.8%. India's major onion export trade with Malaysia has declined to -33%, similarly, with Sri Lanka to -45%.

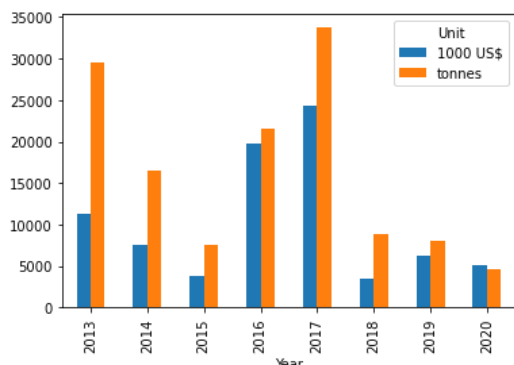


Figure 2. Indian onion export trends from 2013 to 2020 (Tridge 2021)

Table 4. Indian onions importing countries (Tridge 2021)

Partner	Export Share in 2020 (%)	Export Value In 2020 (US\$ million)	Export Growth value 2019-20 (%)
India to Bangladesh	26.7	92.90	+41.9
India to Malaysia	16.61	57.59	-16.27
India to Sri Lanka	12.19	42.26	-5.33
India to UAE	11.89	41.22	-19.72
India to Saudi Arabia	3.89	13.47	-23.72

Onion Market Trends in European Union

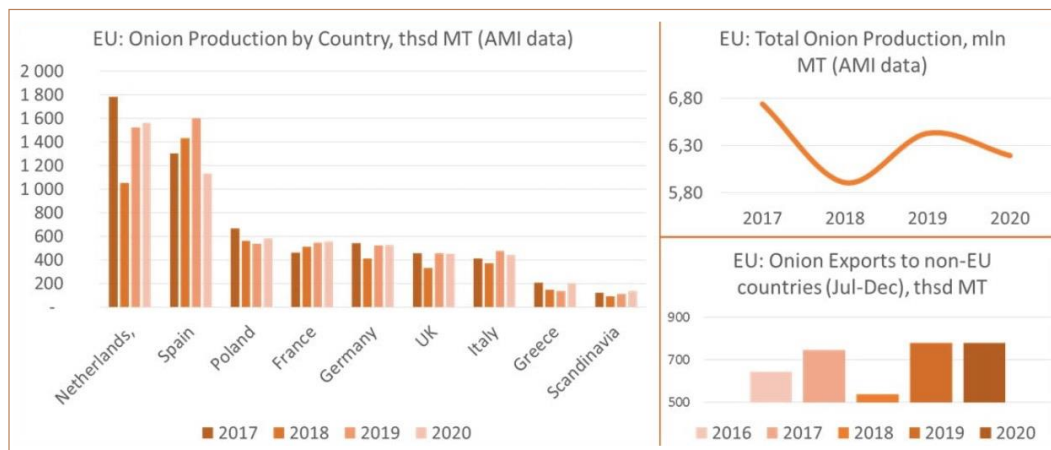
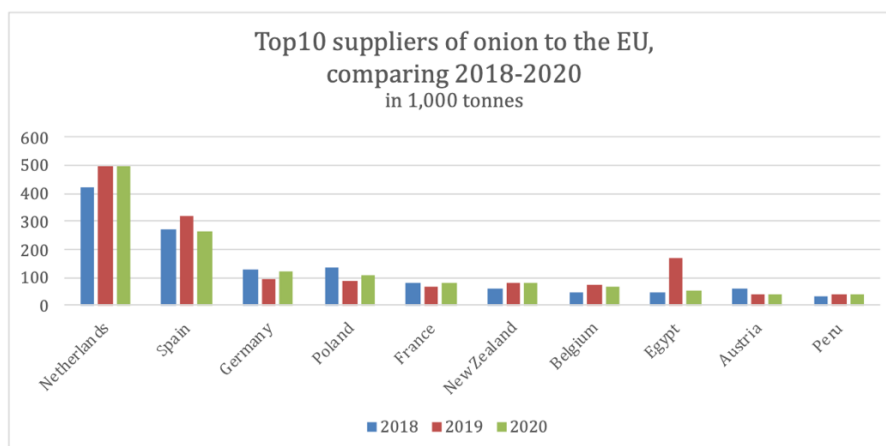
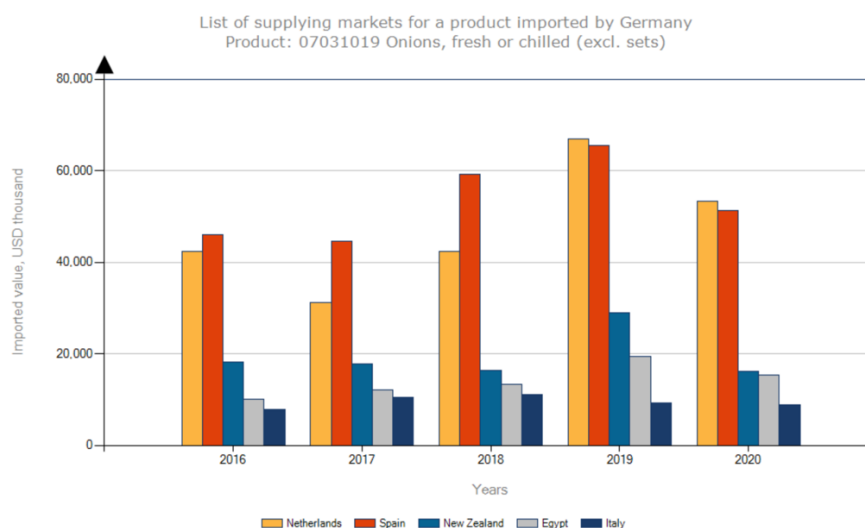


Figure 3. EU onion production trendsⁱⁱⁱ

- The total onion production in the EU decreased by 4% in 2020 compared to the previous year to 6.2 million tons, but this was due to a sharp drop in production in Spain. Spain is the largest producer and second-largest exporter of onions after the Netherlands.
- The production of onions in Spain fell immediately by 30% in 2020 compared to the previous year and was 20% lower than the average for the last three years. In other countries, production has been average over the past few years or increased compared to 2019.

Figure 4. EU onion import trend^{iv}

- The leading onion suppliers to the European market are the Netherlands (mainly as producers, only in intra-European trade), Spain, Germany and Poland. Europe's onion imports from Egypt peaked in 2019 but fell to the 2018 level in 2020.
- Germany is not only an onion supplier, but it is also significantly importing onions with a value of US\$ 185 million. Most imports are internal EU trade. New Zealand is one of the non-EU leading exporters to Germany, with a value of US\$ 16 million in 2020.

Figure 5. German onion import trends^v

Onion Price and Demand

Fresh Plaza estimated the average wholesale onion price. Other reliable data is not available.

- Germany: 200 and 240 Euro per 1000kg
- Austria: 120 to 150 Euro per 1000kg

31st January 2022, NUMBEO^{vi} estimates an average retail price in various European cities. Trieste, Italy, with the highest cost of 2.59 Euro per kilogram. Gdansk, Poland, recorded the lowest price of 0.70 cents per kilogram.

Table 5. Average consumer price at various European cities

Search: Germany	
City	Onion (1kg)
Saarbrücken, Germany	1.70
Munich, Germany	1.61
Hamburg, Germany	1.59
Dortmund, Germany	1.43
Frankfurt, Germany	1.43
Hanover, Germany	1.42
Berlin, Germany	1.41
Darmstadt, Germany	1.41
Stuttgart, Germany	1.41
Freiburg im Breisgau, Germany	1.38
Cologne, Germany	1.34
Aachen, Germany	1.32
Essen, Germany	1.31
Augsburg, Germany	1.28
Heidelberg, Germany	1.21
Düsseldorf, Germany	1.21
Erlangen, Germany	1.15
Leipzig, Germany	1.15
Nuremberg, Germany	1.09
Bonn, Germany	1.06
Bremen, Germany	1.06
Karlsruhe, Germany	1.06
Mannheim, Germany	1.04
Ulm, Germany	0.99
Dresden, Germany	0.99
Regensburg, Germany	0.99

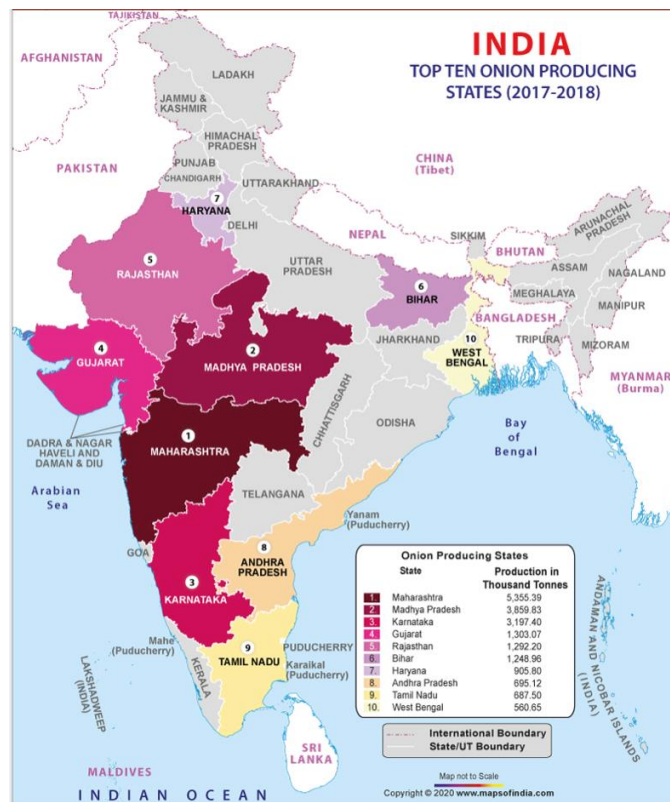
Search: France	
City	Onion (1kg)
Nice, France	2.43
Paris, France	2.28
Grenoble, France	2.05
Marseille, France	1.95
Toulouse, France	1.52
Montpellier, France	1.50
Lille, France	1.33

Search: Netherlands	
City	Onion (1kg)
Utrecht, Netherlands	1.10
Amsterdam, Netherlands	1.07
Leiden, Netherlands	1.05
Enschede, Netherlands	1.03
Rotterdam, Netherlands	1.01
The Hague (Den Haag), Netherlands	1.01
Delft, Netherlands	1.00
Breda, Netherlands	0.99
Nijmegen, Netherlands	0.99
Eindhoven, Netherlands	0.98
Haarlem, Netherlands	0.98
Maastricht, Netherlands	0.98
Best, Netherlands	0.95
Groningen, Netherlands	0.92
Tilburg, Netherlands	0.92

Search: Italy	
City	Onion (1kg)
Trieste, Italy	2.59
Rome, Italy	1.66
Pisa, Italy	1.53
Genoa, Italy	1.51
Naples, Italy	1.50
Bergamo, Italy	1.48
Bologna, Italy	1.46
Catania, Italy	1.43
Florence, Italy	1.42
Padova, Italy	1.41
Parma, Italy	1.41
Cagliari, Italy	1.40
Milan, Italy	1.31
Bari, Italy	1.25
Turin, Italy	1.24
Palermo, Italy	1.18
Treviso, Italy	1.18

Search: Poland	
City	Onion (1kg)
Gdynia, Poland	0.98
Katowice, Poland	0.88
Warsaw, Poland	0.85
Szczecin, Poland	0.84
Poznan, Poland	0.83
Krakow (Cracow), Poland	0.79
Wroclaw, Poland	0.78
Lodz, Poland	0.75
Gdansk, Poland	0.70

Onion Production in India

Figure 6. Major onion producing states in India^{vii}

- Onion is an essential ingredient of Indian cuisine and is also eaten raw as salad.
- In terms of production, Maharashtra was the largest onion producing state in India with a share of 42.5%, followed by Madhya Pradesh (14.9%), Karnataka (8.5%), Bihar (5.6%) and Gujarat (4.6%) in 2019-20^{viii}.

- Together, these top five onion-producing states contributed more than 75% of total production in 2019-20.
- Popular onion varieties cultivated in India include *Pusa Red*, *Pusa Ratnar*, *Pusa White Round*, *Patna Red*, *Poona Red*, *Arka Pragati*, *Arka Niketa*, *Patna White*, *Bombay White*, *Nasik Red*.
- The area under onion has increased from 0.25 million ha to 1.23 million ha during 1980-20120 with an annual average growth rate of 5.15%. The production also increased during the same period from 2.5 million tonnes to 26.7 million tonnes, with an average yearly growth rate of 7.39%.
- The average productivity of onion is 17 tonnes per ha, which is less than the world average of 18 tonnes per ha.
- Madhya Pradesh has the highest productivity yield of onion with 27 tonnes/ha, followed by Gujrat with 25 tonnes per ha. Tamil Nadu recorded the lowest productivity of 10 tonnes per ha.
- *Rabi* is the primary season for onion cultivation.

SEASON	TRANSPLANTING	HARVESTING PERIOD	PRODUCTION	
			2018-19 (Final)	2019-20 (Expected)
Kharif	July - August	October-December	48.41	39.00
Late Kharif	October - November	January- March	21.50	15.74
Rabi	December - January	End of March to May	158.28	212.41
TOTAL			228.19	267.15

Figure 7. Onion seasonality

- In the recent past, onion has been one of the agricultural commodities subject to high price fluctuations in major markets in India. In general, onion prices follow a typical seasonal pattern in price movement. Onion prices typically peak during the lean season of July-October and fall during April – May, coinciding with the significant rabi season's peak arrival season.
- In 2020, retail onion price variation was up to 194%; from August to November, the price increased from INR 21 to INR 64 per kilogram. Wholesale onion prices during the same period went from INR 1,610 to INR 5,462 per 100kgs^{ix}.
- The Government of India imposed a stock limit on onions on 23rd October 2020. Wholesale traders can store only 25 tonnes of onion, while retailers can only hold 2 tonnes.

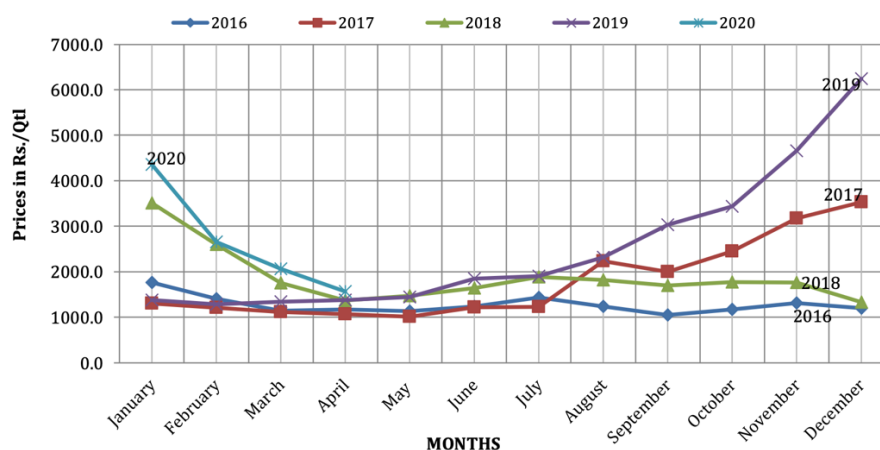


Figure 8. Monthly average wholesale prices of onion across all Indian states

- National Sample Survey estimated onion per capita consumption at 100 to 150 gm per day in 2013.
- National Horticultural Research and Development Foundation (NHRDF) Vision 2050 projects that India will require 35 million tonnes of onion in 2050 against 21 million tonnes in 2015-16, to cater to the needs of the projected population of 1.7 billion. This demands an increase in average productivity from 17 tonnes/ha to 30 tonnes/ha.

Onion Promotional Schemes in India

Operation Greens:

The scheme will have a two-pronged strategy of Price stabilisation measures (for the short term) and Integrated value chain development projects (for the long term).

Short term Price Stabilisation Measures

NAFED will be the Nodal Agency to implement price stabilisation measures. MoFPI will provide 50% of the subsidy on the following two components:

- i. Transportation of Tomato Onion Potato. (TOP) Crops from production to storage.
- ii. Hiring of appropriate storage facilities for TOP Crops.

Market Intelligence and Early Warning System

MIEWS Dashboard and Portal is a platform for monitoring prices of tomato, onion and potato (TOP) and for generating alerts for intervention under the terms of the Operation Greens scheme. The portal would disseminate all relevant information related to TOP crops such as Prices and Arrivals, Area, Yield and Production, Imports and Exports, Crop Calendars, Crop Agronomy, etc in an easy-to-use visual format.

Long Term Integrated value chain development projects

- i. Formation and Capacity Building of FPOs
- ii. Quality Production
- iii. Post-harvest processing facilities - At Farm Level
- iv. Post-harvest processing facilities - At Main Processing Site
- v. Agri-Logistics
- vi. Marketing/Consumption Points

Maharashtra State Agriculture Marketing Board (MSAMB) has formulated a subsidy scheme for scientific onion storage to provide subsidies to the farmers at 25% of the cost of construction for Scientific Onion Storage under RKVY. The subsidy under the scheme is available through a lottery system where only 5% of the applicants stand a chance to receive the subsidy. The quantum of support may be enhanced to cover a large number of farmers.

What are significant challenges in the tomato supply chain?

Production constraints:

- Low productivity and low seed replacement ratio. Indian onion productivity is among the lowest. Inadequate certified seeds, poor seed replacement ratio (< 20%).
- Post-harvest losses are an average of 20-25%.
- Poor storage and grading facilities at farm gate level.

Marketing constraints:

- High price fluctuation.
- The APMC markets are characterised by poor competitiveness, inefficiencies and having scope for frequent price manipulations.

Processing constraints:

- Inadequate processing facility.
- Product perishability is a significant quality factor for processors.

Absence of governmental support:

- Absence of agri value chain finance.
- Inadequate crop loan.
- Absence of warehouse receipt financing.
- Absence of market informational flows / demand forecast.

ⁱ https://www.fao.org/faostat/en/#rankings/countries_by_commodity

ⁱⁱ <https://www.tridge.com/intelligences/onion>

ⁱⁱⁱ <https://east-fruit.com/en/horticulture-market/market-reviews/onions-market-analysis-of-the-eu-central-asia-the-caucasus-and-eastern-europe/>

^{iv} https://www.importpromotiondesk.com/fileadmin/user_upload/Publikationen/factsheet/obst_gemuese/Fresh_Onion_and_Garlic.pdf

^v https://www.trademapp.org/Country_SelProductCountry_TS_Graph.aspx?nvpm=1%7c%7c42%7c%7c%7c070310%7c%7c%7c6%7c1%7c1%7c1%7c2%7c1%7c4%7c1%7c1%7c2

^{vi} https://www.numbeo.com/cost-of-living/region_prices_by_city?itemId=119®ion=150

^{vii} <https://www.mapsofindia.com/top-ten/india-crops/onion.html>

^{viii} https://agricoop.nic.in/sites/default/files/Monthly%20Report%20on%20Onion%20for%20April%2C%202020_0.pdf

^{ix}<https://en.gaonconnection.com/onion-tears-the-price-of-onion-might-have-come-down-but-is-expected-to-climb-steeply-again/>