Indian Agrochemical Industry : Learning a Way Forward From a Challenging Year

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About the Speaker

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- 32+ Years of Experience in agribusiness working in tea plantation, agrochemicals, specialty fertilizer, and vegetable seeds.
- Governing Council member in ACFI (Agrochem Federation of India) and General Secretary since 2021.
- Visiting faculty in agriculture universities and management institutes

About the Session

- Explore India's rise as a global leader in crop protection and the challenges of oversupply since 2023.
- Discuss the strategic outlook for Indian companies in 2024-25 and decipher its’ implications for businesses.

India: Agriculture Overview

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Crop	Area(m.ha.)
Rice	46.4
Wheat	30.5
Cotton	12.4
Soybean	12.1
Maize	10.0
Millet	8.5
Mustard	8.0
Groundnuts	5.7
Sugar cane	5.2
Pigeon peas	4.9

Crop	Area(m.ha.)
Sorghum	3.8
Vegetables	2.9
Mangoes	2.7
Pulses	2.4
Coconuts	2.2
Onion	1.9
Sesame	1.6
Lentils,	1.4
Fruits	1.3
Cashew	1.2
Bananas	1.0

Indian Agriculture: Meteorological Data

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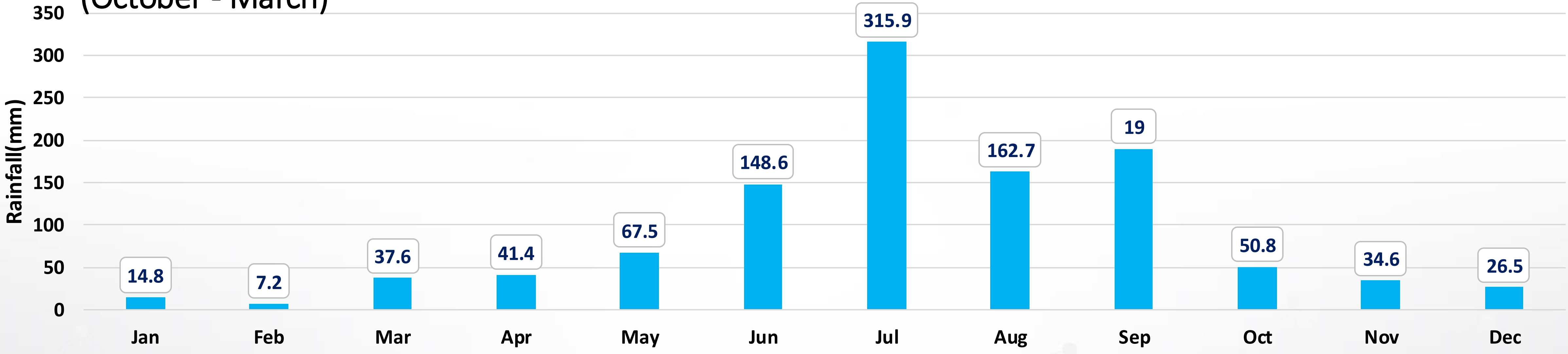
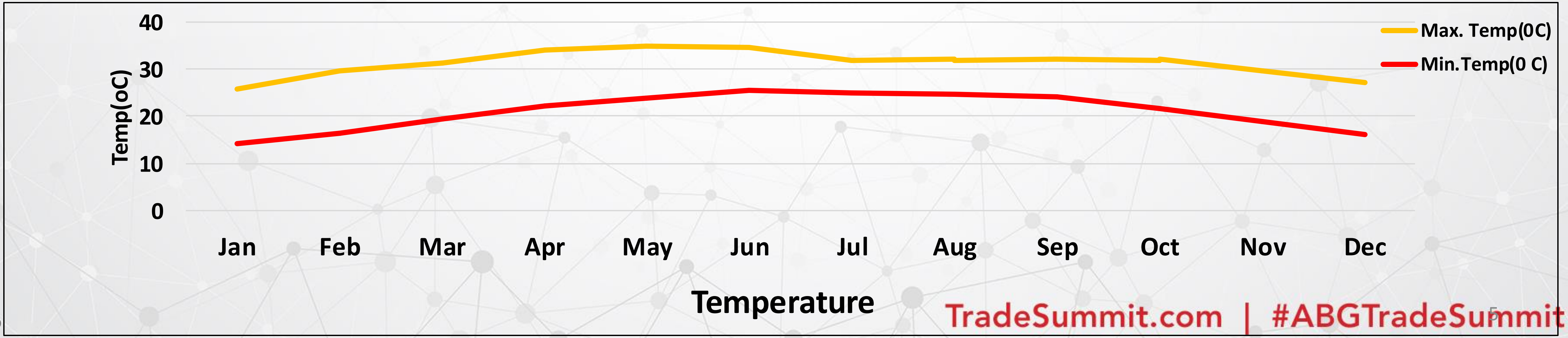
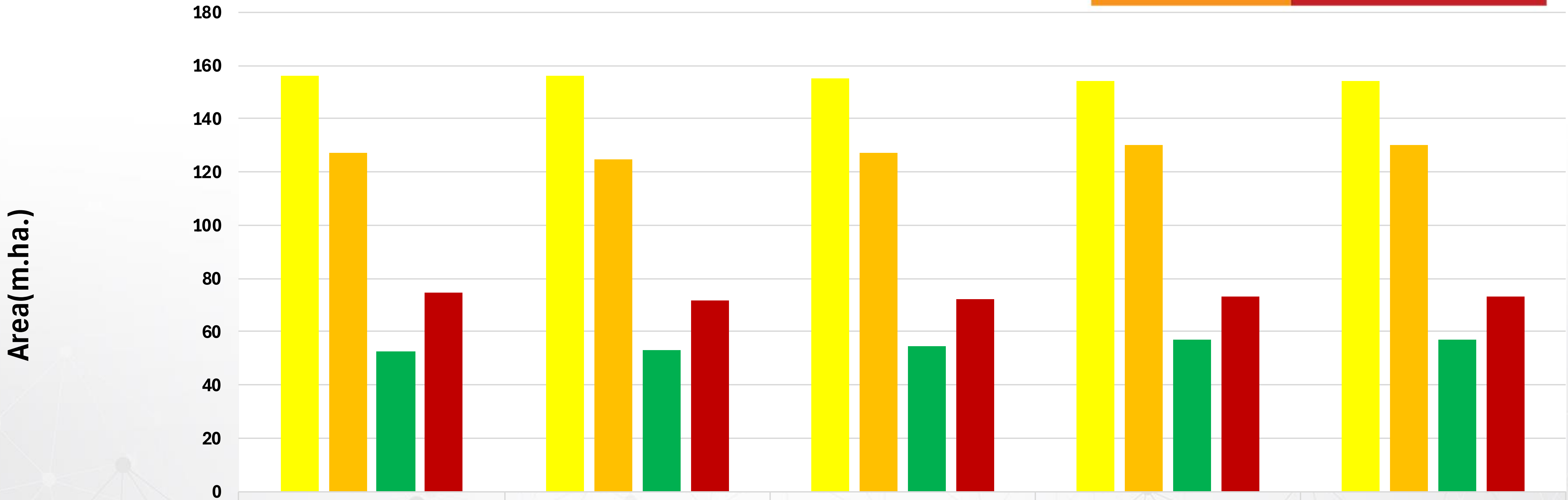
Two Main Cropping Seasons: Kharif (April - September) and Rabi (October - March)





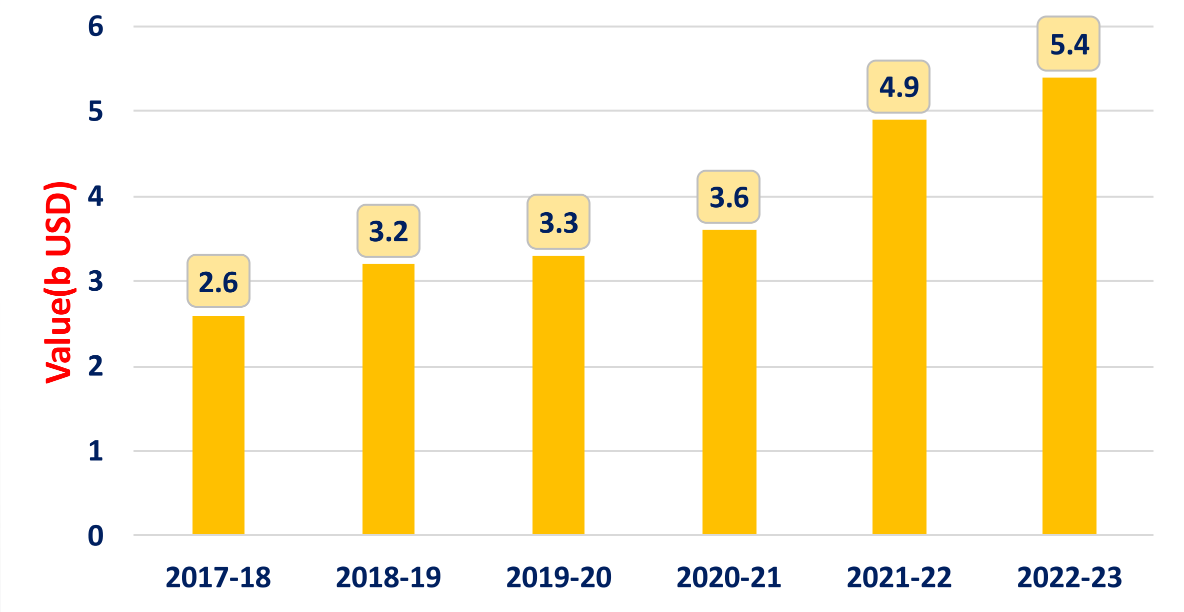
Indian Agricultural Overview

Irrigated area is about 43% of the Cultivated land

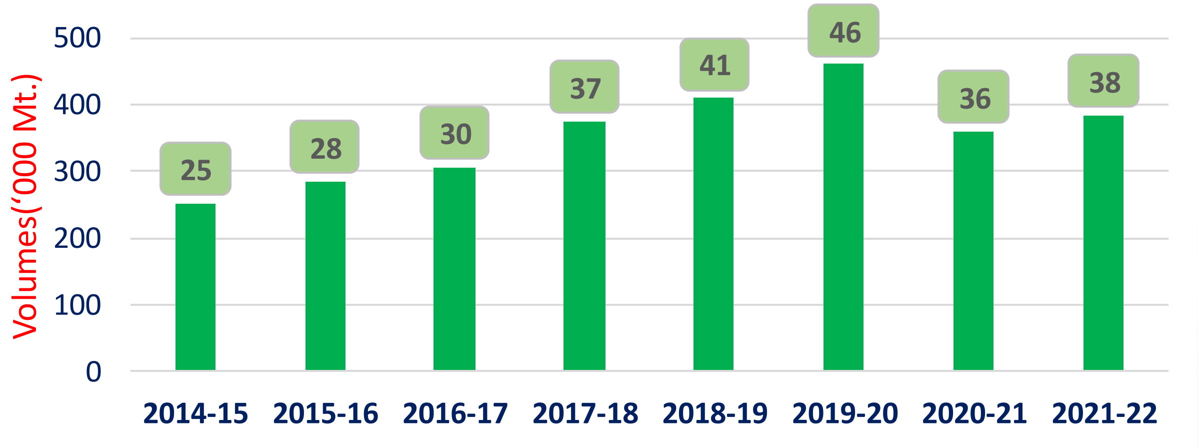


	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Arable Land	156	156	155	154	154
Cultivated Area	127	125	127	130	130
Irrigated Area	52.4	53.3	54.7	56.9	56.8
Un Irrigated	74.6	71.7	72.3	73.1	73.2

Agrochemical Exports from India



Agrochemical Exports (Value)*



Agrochemical Exports (Volume)*

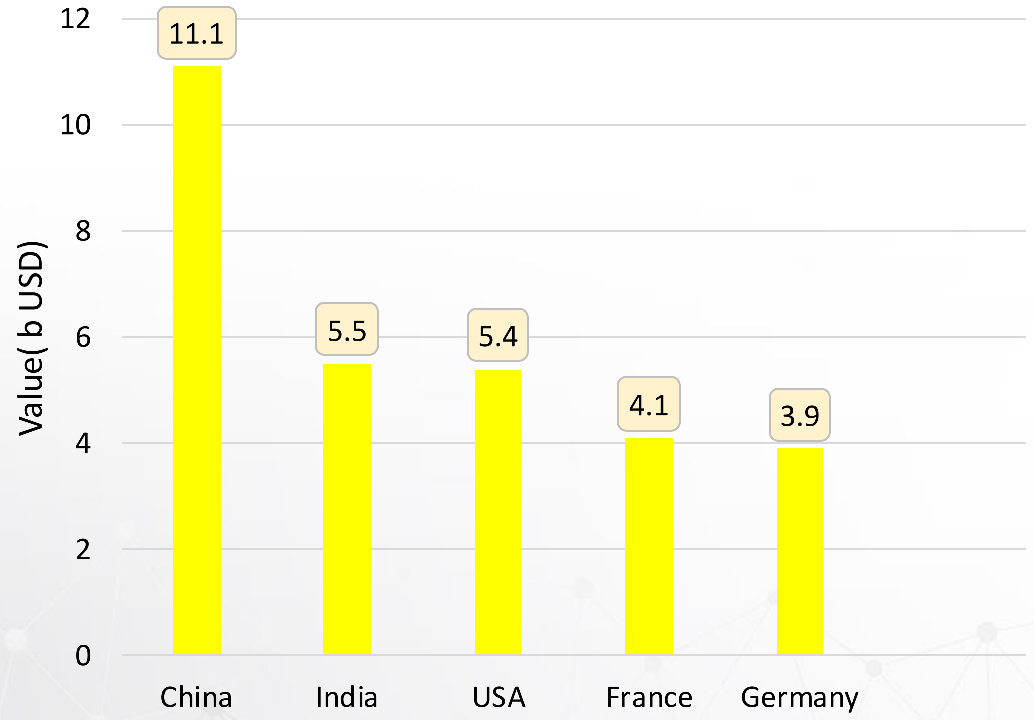
* Source: APEDA (Accessed on Feb 03, 2024)

- India is the third largest producer of Agrochemicals in the World.
- India ranks 2nd largest Exporter of agrochemicals in the World after China.
- Around 80% of the share is from Post Patent molecules.
- In FY 2022-23, the agrochemical exports was about 5.4 b US$.

India is fast emerging as a Preferred Global Manufacturing hub

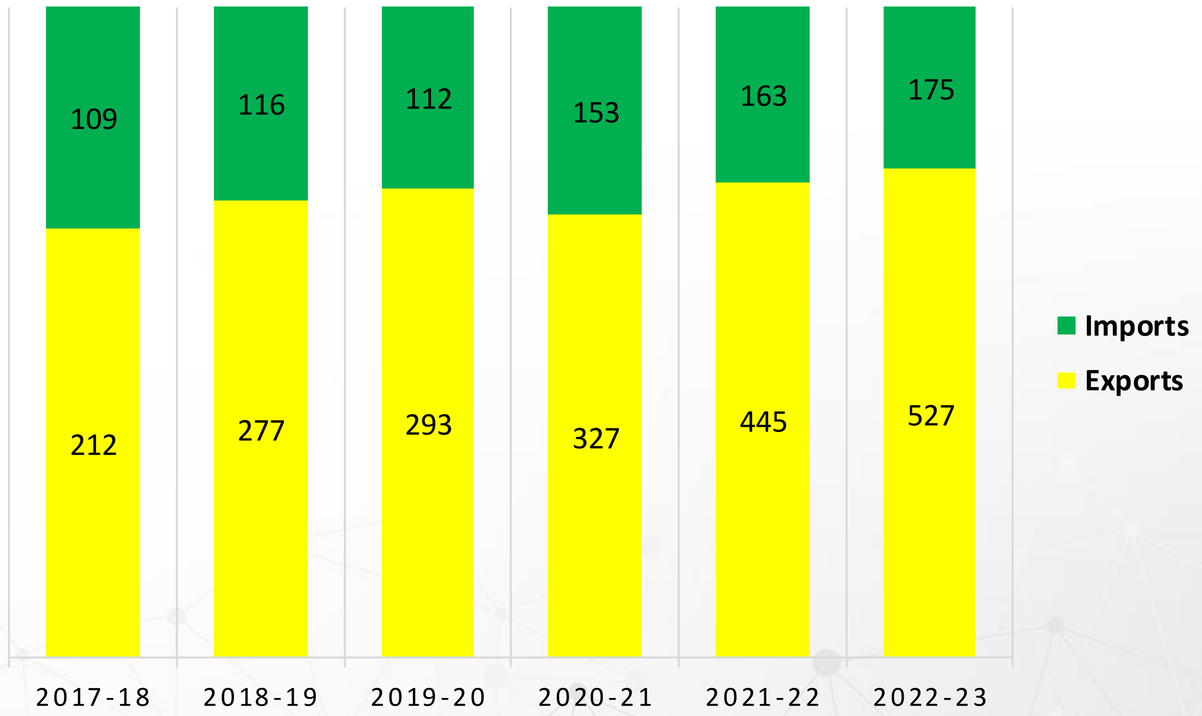
Agrochemical Exports & Imports

Top Five Countries in Agrochemical Exports



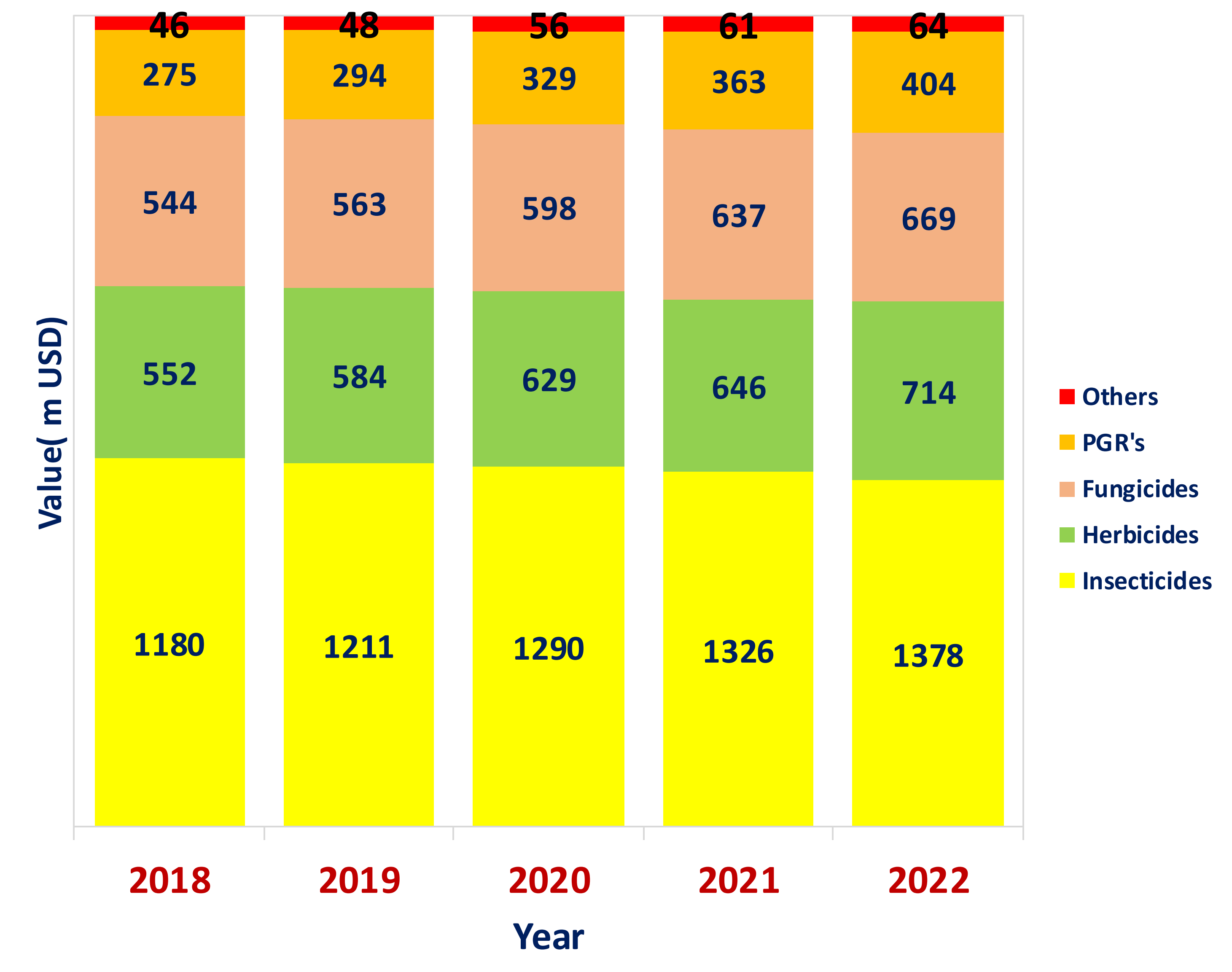
* Source: ICC Data (Accessed on Feb 03, 2024)

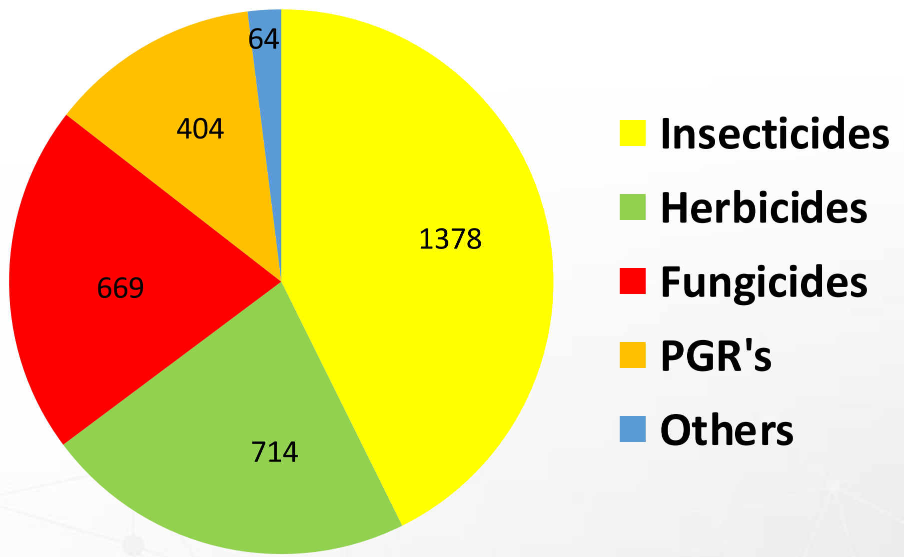
Exports and Imports from India



- India emerged as the 2nd largest Exporter of Agrochemicals, and this testifies the Quality.
- USA is the largest buyer followed by Brazil and Japan

Indian Domestic Crop Protection Market





Indian Domestic : Insecticides dominate the market followed by Herbicides and Fungicides.

Learning: Focus on domestic market besides emerging as a global chemical hub

- A large domestic agrochemical market which is increasing steadily due to robust demand.
- 50- 55% of the total production is consumed in the Domestic Market in India
- Increasing number of agrochemical and key intermediate manufacturers.
- Contract manufacturing partnerships by MNC and large regional agrochemical companies from Brazil, U.S.A , Argentina and Japan are increasing.
- Infrastructure: Manufacturing assets - Dedicated plants - Pilot plant – Potential for expansion.
- Increasing awareness about HSE compliances.
- Expertise in processes re-engineering.
- Focus on backward integration.
- Regulatory expertise.
- GLP labs of global standard.
- Ability to undertake difficult chemical reactions at large commercial scales.
- Ability to adapt to price volatility and dynamic market conditions.

India: An Emerging Chemical hub

Year	2018	2019	2020	2021	2022
Value(m USD)	2597	2698	2902	3032	3229

- Government support in ‘Ease of doing business’
- Multiple sea ports in different regions.
- Indian agrochemical industry has established advanced world class manufacturing facilities to cater to the domestic and global demands.
- Outstanding capabilities of technical/process development, scaling up and desirable analytical skills.
- Trusted partner in consistent supply of quality products.
- 45% of the growth witnessed by agrochemical industries in India was driven by exports.
- A stable domestic agrochemical market where consumption is increasing YOY :

Consistent Investments in R&D, Regulatory Data, Patents

- Nearly 4- 5% of the turnover is spent on R&D by Indian companies.
- Good number of GLP Labs : Companies from U.S.A. , LATAM and EU are coming for data generation at a reasonable cost and timeline.
- Contract R&D companies are coming up with tie up from companies in LATAM , USA and Europe.
- Indian corporates are now focusing and investing majorly in securing patents: Product/processes, Copy Rights; Trademarks.
- The global agrochemical market is about $75 billion. Out of this, 75% are off patent and generical products. India is fast emerging as a sourcing hub of post-patent products by Latin American companies.

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Indian Agrochemical Industry: Potential to Grow

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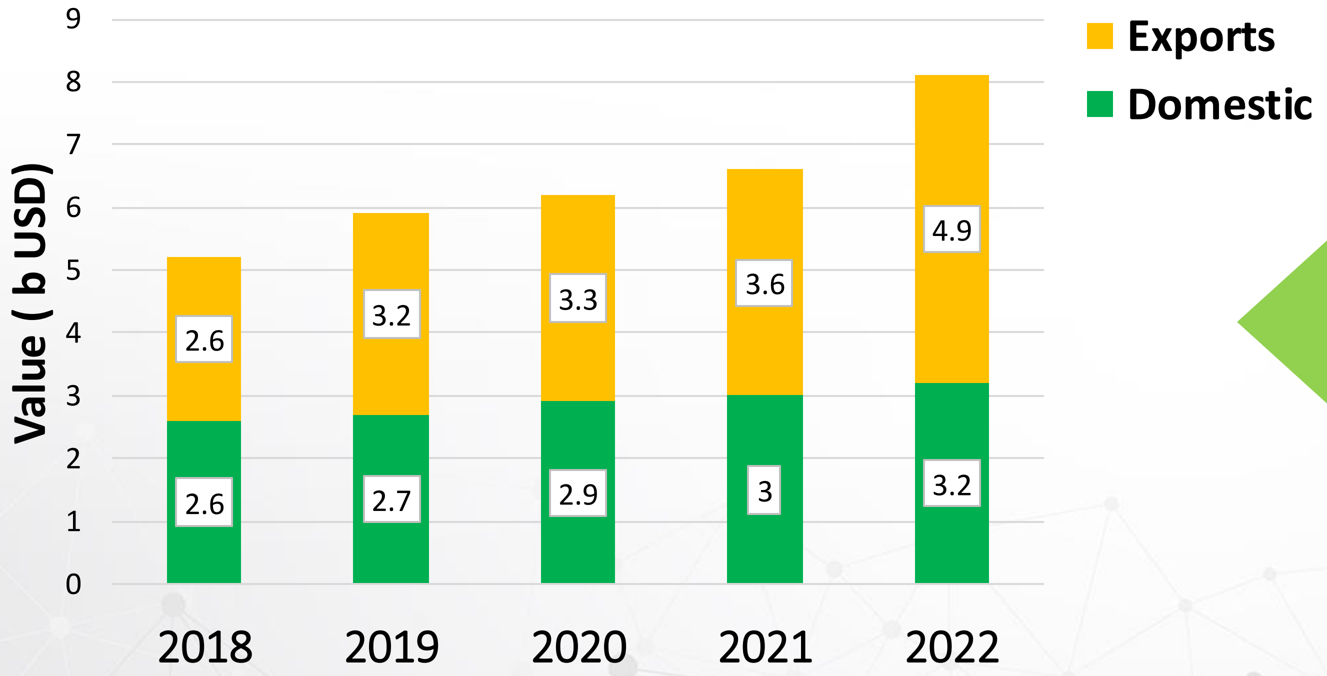
- Has a potential to double in 5 years(USD 11 bn).
- Exports being a key growth driver along with a significant domestic market.



Intermediates are building blocks to other sectors (Vice versa)

Pharma

Speciality Chemicals

- Besides formulation and technical actives , additional opportunity of ~USD 2.5-3 Bn in Agrochemical intermediates
- Already strong capabilities in various agrochemical intermediate chemistries e.g. Pyridines, Fluoro-chemicals, Triazoles, Benzene derivatives etc.

Focus on Contract Manufacturing

- Agrochemical actives
- Key Intermediates
- Formulations

Patented Products → Products coming out of Patent → Generic Products → Intermediates

- Deccan Fine Chemicals
- PI Industries
- UPL
- SRF

- Tagros Chemicals India Ltd.,
- Punjab Chemicals India
- Aarti
- Hikal

Exports from India: Top Ten Molecules

Sl.No.	Product	Volumes in terms of Tech.(Mt.)			Value (m USD)		
		2021	2022	2023	2021	2022	2023
1	Pyroxasulfone	2571	3456	4932	203	299	432
2	Mancozeb	120407	123339	138926	367	442	366
3	Acephate	26,080	24281	32362	134	110	226
4	Glufosinate Ammonium	948	11043	7732	142	253	129
5	Sulfentrazone	4260	4754	3337	151	164	103
6	Lambda Cyhalothrin	2108	2448	2136	126	179	102
7	Clethodim	636	9171	6143	119	184	97
8	Difenconazole	2733	4476	3152	62	110	76
9	Propiconazole	3345	4904	3395	61	126	67
10	Aclonifen	4502	5507	6633	43	42.2	64
11	Metribuzin	5800	6200	5200	90	103	60
12	S-Metolachlor	3468	7400	8900	20	57	58
13	Metconazole	410	470	859	23	30	50

Investments to Build a World Class Infrastructure

Focus on HSE

- Complying with the latest Global HSE standards – Critical for catering global customers.

Innovation : Investments in R & D

- Investment in R&D: Developing green chemistry molecules -Economical processes - Lower RM cost – Lesser dependence in Importing RM's – Reduce pollutants – Lesser effluent treatment cost.
- Focus on developing environmentally friendly novel formulations and biologicals etc. for domestic and exports.
- Encouraging to promote public private partnerships for collaborations among agrochemical companies and government research institutes.

Capacity build up for building blocks allowing fully backward integrated manufacturing

- Investment in complete backward integration process to be price competitive .
- Less dependent on Importing RM's / Intermediates.

Create logistics infrastructure for agrochemicals

- Massive investments to upgrade/build high-capacity ports to handle larger container ships.
- Improve and create special road /rail corridors to handle containers to reduce time, carbon footprint & costs.
- Industrial Parks with centralized pollution and effluent treatment plants.

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Focus on Biologicals

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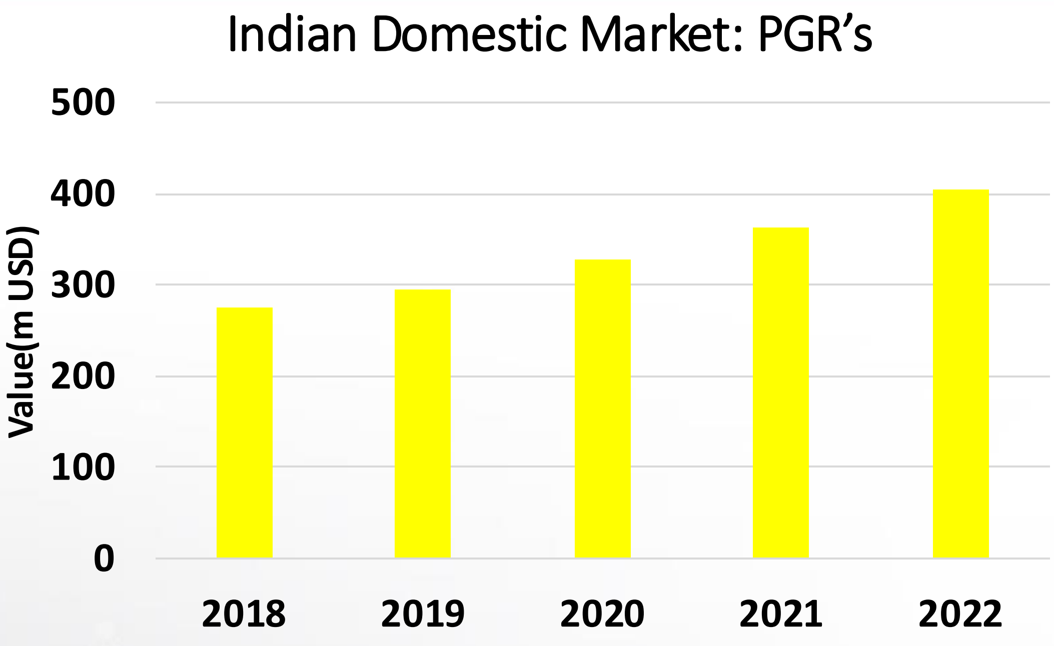

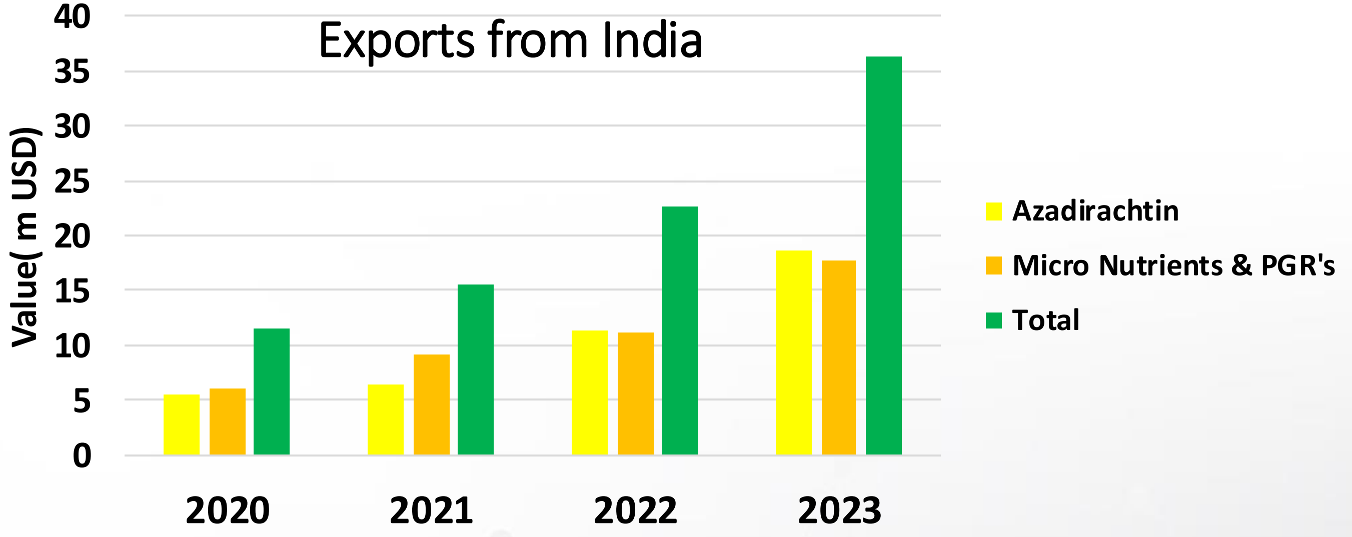

- ✓ **Except for azadirachtin, biopesticides market is still at an ascent stage in Indian market which has a potential to grow.**
- ✓ **Biostimulants/mycorrhizal have a big acceptance in Indian market.**
- ✓ **Major biostimulants: Humic acid, seaweed extracts, amino acids, seafood extracts, bentonite & silica.**

- **Biopesticides:** Have a well-defined regulatory framework in India.
- **Biofertilizers/Micronutrients:** Do not need any data and companies can get sales permit from state governments.
- **Biostimulants: are under regulatory review –** Toxicology, Physchem & Bio-efficacy data is needed for Registration.
- **Challenges:** Farmers want faster knockdown products,. It takes time to accept the new technology.

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India: LOGISTICS Advantage

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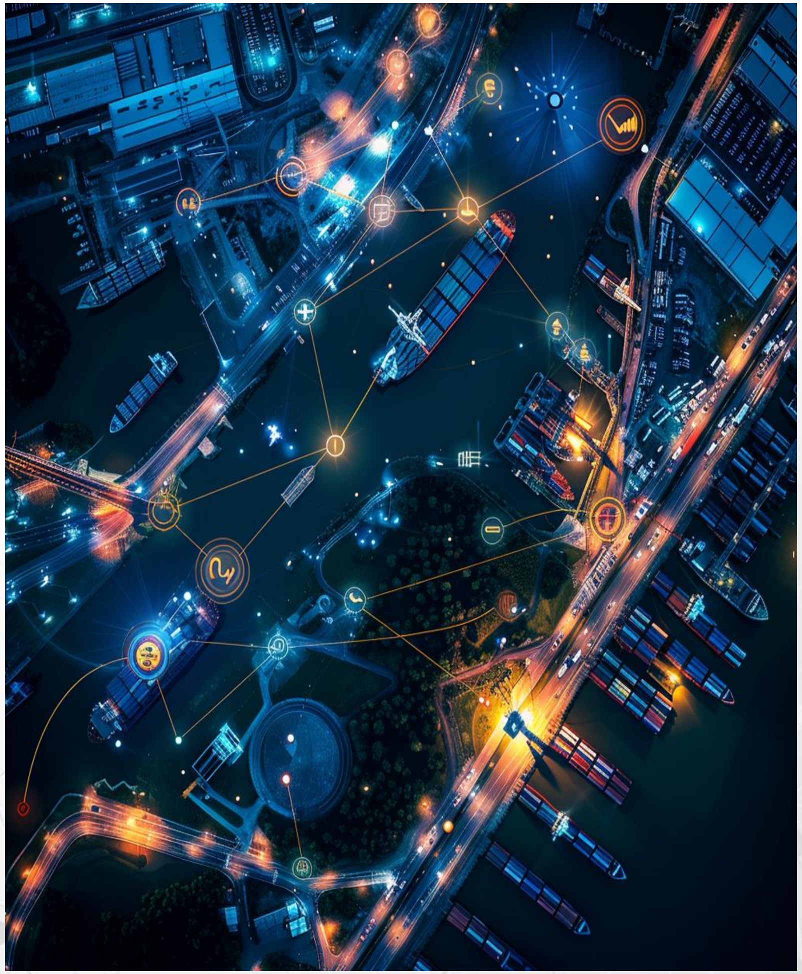
- India has geographical advantage – Long Coastline of more than 7,500 km – Proximity to shipping traffic transiting the Indian Ocean.
- During COVID pandemic shipping from ports in China was affected. Companies from LATAM mostly imported their major requirements from India .
- Major manufacturing plants located in coastal states : Gujarat, Maharashtra, Tamil Nadu, etc. - giving distinct advantage in logistics.
- Efficient high-capacity ports that can handle larger containers ships.
- Massive investments are being made to boost India's cargo capacities and throughput.
- Efforts are being made to reduce reliance on transshipments via hubs to avoid potential lengthy transit times.



✓ **World Bank's Logistics Performance Index (LPI): India Ranks 38th of 139 Countries in 2023.**

✓ **LPI Indicators: India has improved the score in Infrastructure, International Shipments, Logistics Quality & Competence and Timelines)**

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India to grow as a Global Agrochemical Hub

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India is now the second largest exporter of agrochemicals .

Infrastructure: Manufacturing assets – Dedicated Pilot Plants – Potential for expansion

Investments towards: Product quality, reasonable manufacturing cost – Pricing - High production capacities – Backward integration – Investments in Regulatory/IPR.

Flexibility: In accepting volumes – Price fluctuations – Speed in execution/shipment - Adherence to timelines – depending on market conditions.

HSE: Complying with the latest Global HSE standards.

Logistics: Massive investments are being made to boost India's cargo capacities and to increase World bank – LPI Index.

THANK YOU!

Questions?

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