

AGRICULTURE AND ALLIED INDUSTRIES



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Executive summary

1 Global standing

- India ranks 1st in milk production and contributes 24% to global milk production, in 2021-22. It registered a 51% increase during the last 8 years, during 2014-15 to 2021-22.
- India ranks 3rd in global egg production and produced at least 129.53 billion nos. in 2021-22. Egg production is growing at the rate of 8% per annum.
- India is the 3rd largest fish-producing country, accounting for 8% of the global fish production, and ranks 2nd in aquaculture production. In 2021-22, the country's fish production has reached an all-time high of 16.24 MMT, showing 10.34% growth.

2 Favourable conditions

- India has access to several natural resources that provides it with a competitive advantage in the food processing sector. Due to its diverse agro-climatic conditions, it has a wide-ranging and large raw material base suitable for food processing industries.



3 Increasing farm mechanization

- Use of proper equipment can increase farm productivity by up to 30% and reduce the input cost by about 20%.
- Tractor accounts for most of the farm mechanisation in India. The country is also the largest market in the world for tractors.

5 Record production of food grains

- Foodgrain production in India touched 323.05 million metric tonnes (MT) in 2022-23 (2nd Advance Estimate). Moreover, India's foodgrain production touched a record 345.32 million MT in 2021-22.
- As per the First Advance Estimates for 2022-23 (Kharif only), total foodgrains production in the country is estimated at 149.9 million tonnes, higher than the average Kharif foodgrain production of the previous five years (2016-17 to 2020-21).

4 Rising consumption expenditure

- The pandemic-induced lockdowns resulted in a sharp increase in the share of food in the total expenditure across rural and urban India for all income groups and castes and religions, but the intensity of shifts varied.

Note: MT- Million Tonnes
#- as per provisional estimate

Sources: News Articles, FICCI, Invest India, Press Information Bureau



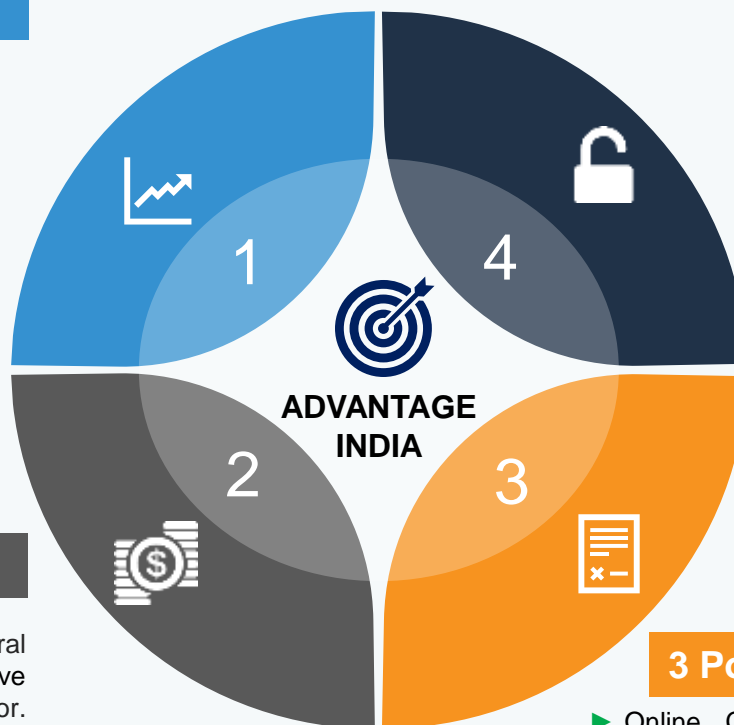
Advantage India

1 Robust demand

- ▶ Factors contributing towards the sharp growth in demand for processed foods include increasing urbanization, increasing disposable incomes, changing spending patterns/ priorities, the emergence of nuclear families and the growing need for convenience foods in dual-income nuclear families.
- ▶ The demand for organic products in the Indian market is growing and is anticipated to rise with a CAGR of 25.25% between 2022-27.

2 Competitive advantage

- India has access to several natural resources that provides it with a competitive advantage in the food processing sector. Due to its diverse agro-climatic conditions, it has a wide-ranging and large raw material base suitable for food processing industries.



4 Attractive opportunities

- ▶ Entry of foreign players have been key to sustainable growth in some sectors such as dairy.
- ▶ Indian consumers are rapidly changing their eating habits. Trends indicate a sharp increase in on-the go eating, snacking in between meals, switching to healthier eating alternatives, pre-cooked ready to eat meals and increasing consumption of organic foods. This has led to a host of new opportunities in the consumer foods market for both domestic and international companies to build a stake in this fast-growing processed food market.

3 Policy support

- ▶ Online, Competitive, Transparent Bidding System with 1.74 crore farmers and 2.39 lakh traders put in place under the National Agriculture Market (e-NAM) Scheme.
- ▶ A new sub-scheme of PM Matsya Sampada Yojana with a targeted investment of Rs. 6,000 crore (US\$ 729 million) to be launched to further enable activities of fishermen, fish vendors, and micro & small enterprises, improve value chain efficiencies and expand the market.
- ▶ The government has proposed developing 100 food streets in 100 districts across India, with the financial help of US\$ 122,271.30 (Rs. 1 crore) per food street/district.

Source: News Articles

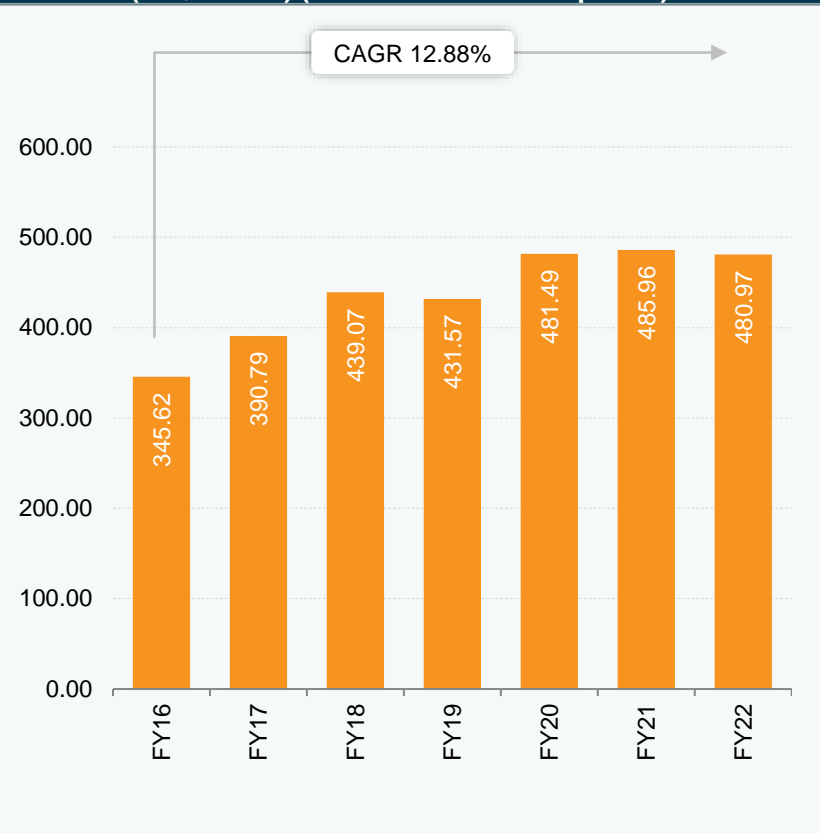
Market Overview – Agriculture



Growth in agriculture

- In India, agriculture is the primary source of livelihood for ~55% of the population.
- At current prices, agriculture and allied sectors account for 18.3% of India's GDP (2022-23).
- As First Advance Estimates of the country's Agriculture and allied activities recorded a growth rate of 3.5-4% in FY 2021-22.
- As per the third Advance Estimates of National Income, 2021-22 released by the National Statistical Office (NSO), Ministry of Statistics & Programme Implementation, the agriculture and allied sectors contributed approximately 18.6 % of India's GVA at current prices during 2021-22.
- As per the Budget 2022-23, Rs. 20 lakh crore (US\$ 24.41 billion) agricultural credit targeted at animal husbandry, dairy and fisheries.
- For the year 2022-23, an export target of US\$ 23.56 billion has been fixed for the agricultural and processed food products basket and an export of US\$ 17.435 billion has already been achieved in eight months of the current fiscal.
- Between April 2000-December 2022, FDI in agriculture services stood at US\$ 4.43 billion.
- According to Bain & Co., the Indian agricultural sector is predicted to increase to US\$ 30-35 billion by 2025.

**Gross Value Added by Agriculture and Allied sectors
(US\$ billion) (at constant 2011-12 prices)**

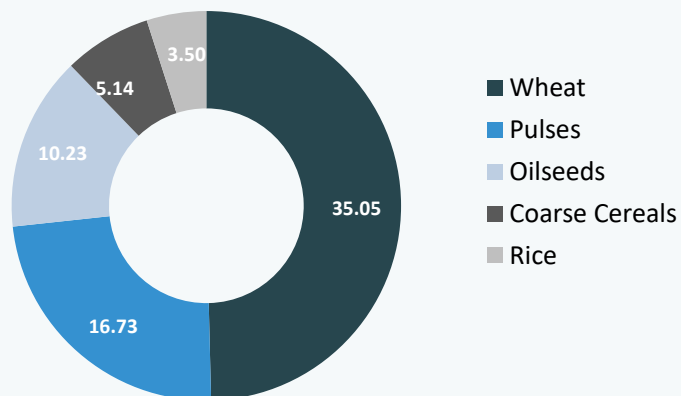


Notes: GDP - Gross Domestic Product, MOSPI – Ministry of Statistics and Programme Implementation;

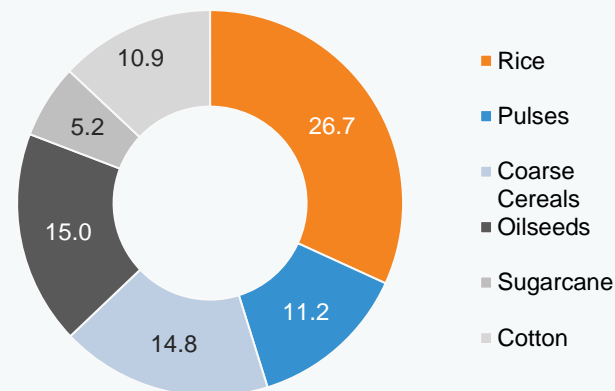
Source: Ministry of Agriculture, Print Release, RBI, MOSPI, Central Statistics Office (CSO), Union Budget 2023-24, Bain & Co.

Major seasons: Kharif and Rabi

Rabi Area Sown in 2021-22 (million hectares)



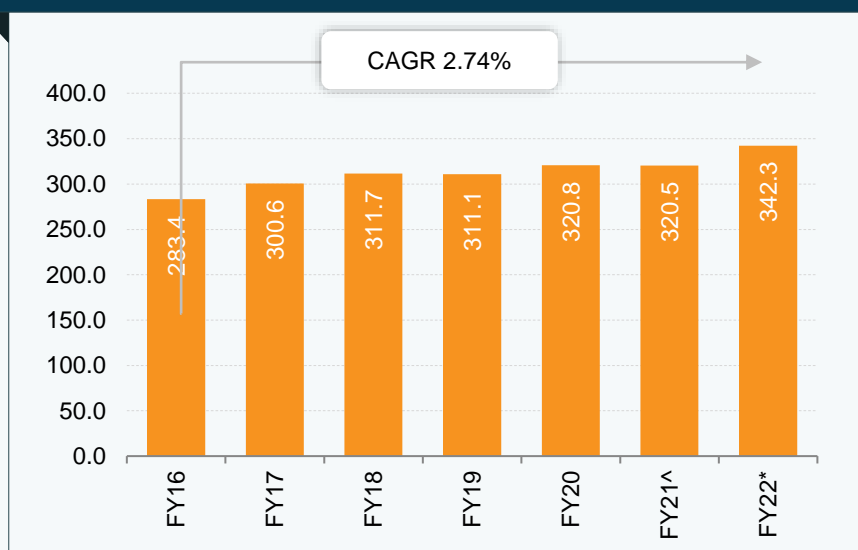
Kharif area sown in 2021-22 (million hectares)



- There are two major agricultural seasons in India: Kharif and Rabi.
- Kharif season lasts from April to September (summer) - rice (paddy) is the season's main crop and rabi season lasts from October to March (winter) - wheat is the season's main crop.
- Monitoring of rabi crops sowing revealed that as on December 9, 2022, the area sown under rabi crops has increased from 457.80 to 526.27 lakh hectares. Out of 68.47 lakh hectares increase in all rabi crops, the increase in wheat area is 51.85 lakh hectares from 203.91 to 255.76 lakh hectares.
- The production of kharif foodgrains in 2022-23, as per the Second Advance Estimates (AE), is estimated at 153.43 million tonnes. The production of Rabi foodgrains in 2022-23, as per the Second Advance Estimates (AE), is estimated at 170.1 million tonnes As of October 27, 2021, the total rabi area stood at 0.53 lakh hectares.

Increasing production

India's Horticulture Production (MMT)



Foodgrains and Commercial Crops Production (MT)

Crop	2018-19	2019-20	2020-21	2021-22
Rice	116.48	118.84	124.36	129.47
Wheat	103.59	107.86	109.58	107.74
Total Cereals	263.14	274.47	285.27	288.31
Total Pulses	22.08	23.02	25.46	27.30
Total Foodgrains	285.21	297.5	310.74	315.61
Total Oilseeds	31.52	33.21	35.94	37.96
Sugarcane	405.41	370.5	405.39	439.42
Cotton (million bales of 170 kg each)	28.04	36.06	35.24	31.11
Jute & Metsa (million bales of 180 kg each)	9.82	9.82	9.35	10.14

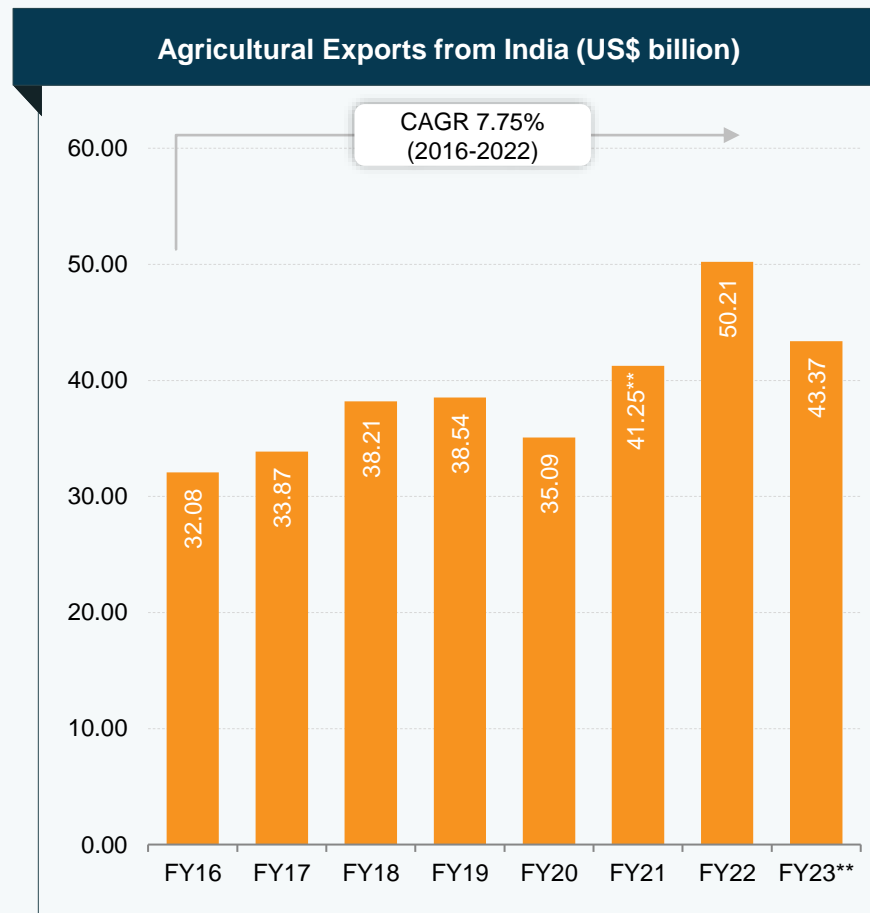
- As per Second Advance Estimates for FY23 (Kharif only), total foodgrain production in the country is estimated at 153.43 million tonnes.
- India's agriculture exports touched a historic high of US\$ 50 billion (FY22). The highest-ever exports were achieved for staples like rice, wheat, sugar, other cereals and meat.
- As per the provisional figures released by the Directorate General of Commercial Intelligence and Statistics (DGCI&S), agricultural exports have grown by 19.92% during 2021-22 to touch US\$ 50.21 billion. This remarkable feat has been made possible on the shoulders of several key initiatives taken by the Central government to increase the production of food grains in recent years.

Note: * As per the first advance estimates * as per 4th revised estimate, ** as per 2nd advance estimate, *** as per 1st advance estimates, ^ as per 4th revised estimate, **** as per 4th advance estimate

Source: Ministry of Agriculture and Farmers' Welfare, Press Release

Demand of Indian agricultural products...(1/2)

- India's agricultural and processed food products exports stood at US\$ 43.37 billion in FY23 (April-January 2023).
- The exports for principal commodities (April 2022–February 2023) were the following:
 - Wheat and Other Cereals: US\$ 2.62 billion
 - Non-Basmati Rice: US\$ 5.73 billion
 - Oil Meal: US\$ 1.34 billion
 - Raw Cotton: US\$ 0.69 billion
 - Sugar: US\$ 5.28 billion
 - Spices: US\$ 3.41 billion
- In FY22, India's agricultural exports are likely to surpass US\$ 40 billion, according to NABARD.
- As per the Economic Survey 2022-23, the government aims to make India a global hub for 'Shree Anna', the Indian Institute of Millet Research, Hyderabad will be supported as the Centre of Excellence for sharing best practices, research and technologies at the international level.



Notes: ** From April 2022 to January 2023

Source: World Trade Organisation, APEDA, DGCIS, Economic Survey 2022-23

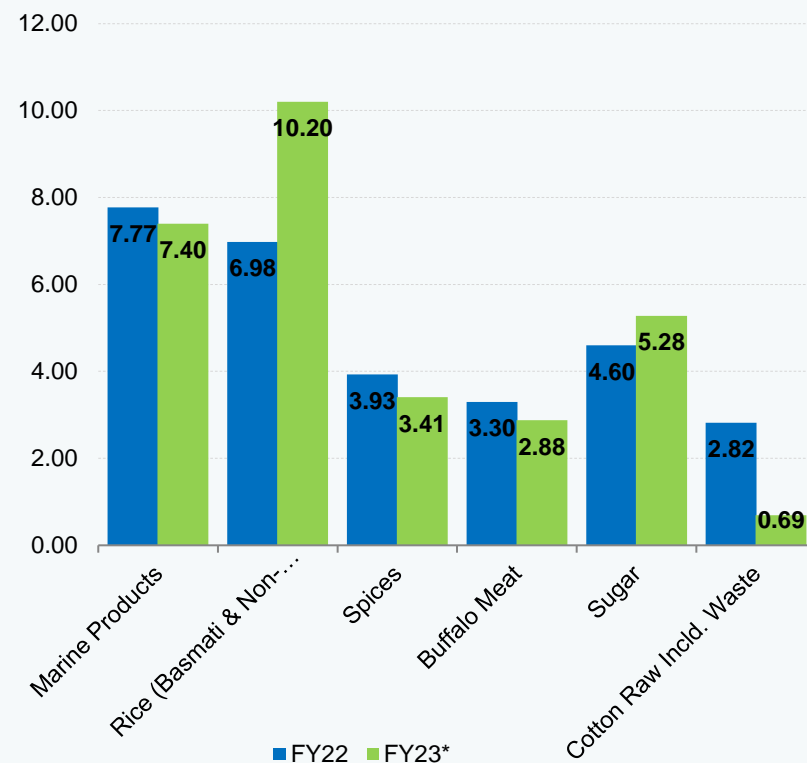
Demand of Indian agricultural products...(2/2)

- Marine products, rice and spices are the largest agricultural export items in terms of value. Other major export items are buffalo meat, sugar, cotton, and oil products.
- In FY22, exports of marine products stood at US\$ 7.77 billion.
- In FY22, buffalo meat exports stood at US\$ 3.30 billion.
- In FY22, sugar exports stood at US\$ 4.60 billion.

Key agricultural and allied sector exports from India in FY23*:

Crop	US\$ billion
Rice (Basmati and Non-Basmati)	10.2
Marine Products	7.4
Spices	3.41
Buffalo Meat	2.88
Sugar	5.28
Cotton Raw including Waste	0.69
Oil Meal	1.34

Key Agricultural and Allied Sector Exports from India (US\$ billion)



Notes: * - From April 2022 to February 2023

Source: Ministry of Agriculture and Farmers' Welfare, APEDA, Ministry of Commerce



Food processing industry in India...(1/2)

- Food and grocery market in India is the sixth-largest in the world. Food processing industry contributes 32% to this food market and is also one of the largest industries in the country, contributing 13% to total export and six% of industrial investment.
- The Indian food processing industry is expected to reach US\$ 535 billion by 2025-26 on the back of government initiatives such as planned infrastructure worth US\$ 1 trillion and Pradhan Mantri Kisan Sampada Yojna.
- The cold chain infrastructure created by 356 completed cold chain projects until August 2022, were the following:
 - 10.2 lakh MT of Cold Storage, Controlled Atmosphere (CA)/Modified Atmosphere (MA) Storage and Deep Freezer.
 - 345.65 MT per hour of Individual Quick Freezing (IQF).
 - 153.14 Lakh Litres Per Day (LLPD) Milk Processing/Storage.
 - 1785 reefer vehicles.
- Of the total 41 mega food parks that were sanctioned, 22 mega food parks are operational, as of December 2022.
- In July 2022, PM Formalisation of Micro food processing Enterprises (PMFME) scheme was launched for providing financial, technical and business support for setting up/upgradation of micro food processing enterprises in the country with an outlay of Rs. 10,000 crore (US\$ 1.27 billion).
- Milk production in the country is expected to increase to 208 MT in FY21 from 198 MT in FY20, registering a growth of 10% y-o-y. Milk processing capacity is expected to double from 53.5 MMT to 108 MMT by 2025.
- The food processing industry employs about 1.77 million people.

- According to National Accounts Division, Ministry of Statistics and Programme Implementation, food processing units in India is growing at 7.68% annually.
- With a budget of US\$ 1.46 billion, the 'Production-Linked Incentive Scheme for Food Processing Industry (PLISFPI)' has been approved to develop global food manufacturing champions commensurate with India's natural resource endowment and to support Indian food brands in international markets.
- In August 2022, a Special Food Processing Fund of Rs. 2,000 crore (US\$ 242.72 million) was set up with National Bank for Agriculture and Rural Development (NABARD) to provide affordable credit for investments in setting up Mega Food Parks (MFP) as well as processing units in the MFPs.

Requirement of cold chain

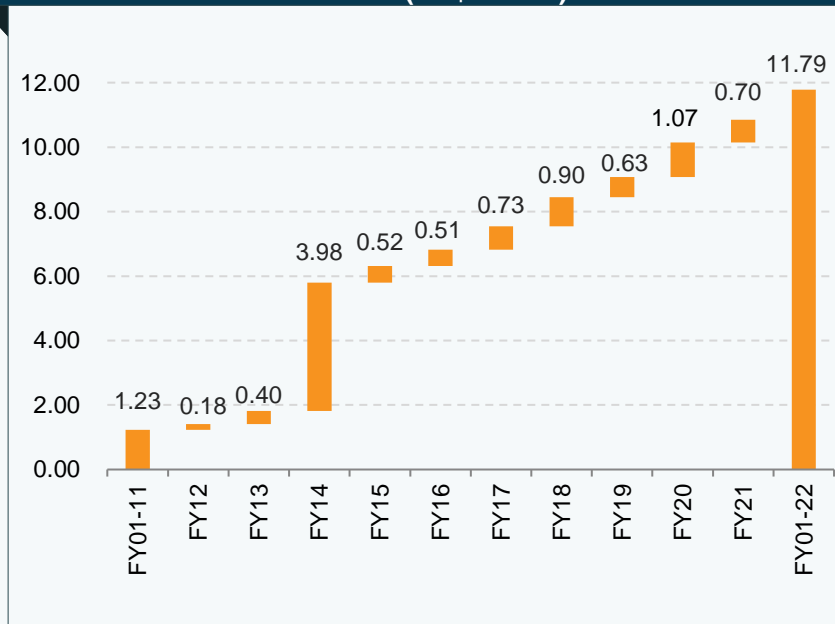
Component	Existing Capacity	Approximate Requirement
Integrated Pack Houses	250 numbers	70,000 numbers
Reefer Trucks	< 10,000 numbers	62,000 numbers
Cold store (Bulk & distribution hubs)	32 million tonnes	35 million tonnes
Ripening Chambers	800 numbers	9000 numbers

Source: US\$A - India's Food Processing Sector Poised for Growth 2019, Ministry of Agriculture and Farmers' Welfare, Ministry of Food Processing Industries, Crisis

Food processing industry in India...(2/2)

- Sales of processed food in the domestic market have been increasing at a faster pace. The Indian food processing market is expected to be worth US\$ 535 billion by 2025, with a CAGR of 15.2%.
- The food processing sector employs the most people, accounting for 20.05 lakh or 12.32% of total employment.
- The food processing sector allows 100% FDI under the automatic route.
- The sector has also recorded a sharp increase in investments with cumulative FDI inflow of US\$ 11.795 billion between April 2000-December 2022. This accounts for 1.88% of total FDI inflows received across industries.
- The processed food market in India was valued Rs. 1,931,288.7 crore (US\$ 263 billion) in FY20.
- The Comprehensive Economic Partnership Agreement (CEPA) between India and the UAE will strengthen India's food processing industry.
- In April 2021, the Government of India approved a PLI scheme for the food processing sector with an incentive outlay of Rs. 10,900 crore (US\$ 1.48 billion) over a period of six years starting from FY22.
- In September 2021, PepsiCo commissioned its Rs. 814 crore (US\$ 109.56 million) Kosi Kalan foods facility in Mathura, Uttar Pradesh; it is the company's largest greenfield manufacturing investment in India.

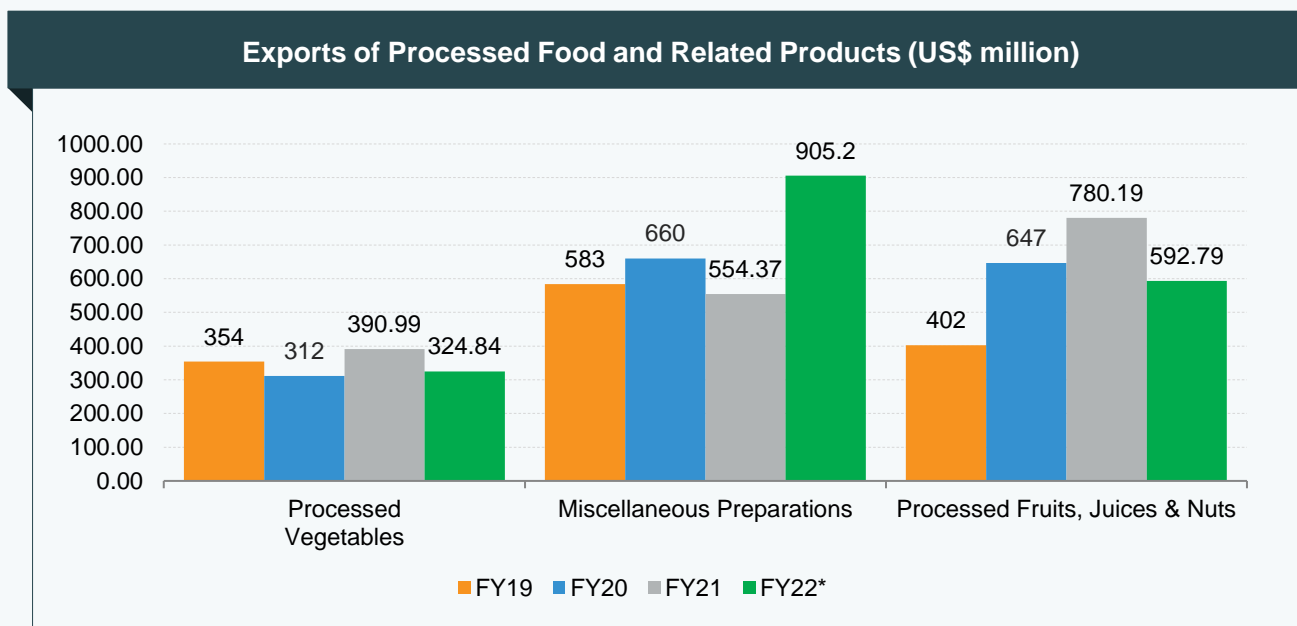
FDI inflows in Food Processing Industries between April and June 2021 (US\$ billion)



Notes: * until June 2021

Source: DPIIT, Crisil, Invest India

Export of processed food and related products



- Overall APEDA product exports climbed to US\$ 19.7 billion in April-December 2022, up from US\$ 17.5 billion in the previous fiscal year. APEDA has set an export target of US\$ 23.6 billion for the agricultural and processed food products basket for the fiscal year 2022-23, with the export of US\$ 19.69 billion already reached in the first nine months of the current fiscal year.
- India exported key processed food products such as pulses, processed vegetables, processed fruits and juices, groundnuts, guar gum, cereal preparations, milled products, alcoholic beverages and oil meals.
- The export of products under the Ready to Eat (RTE), Ready to Cook (RTC), and Ready to Serve (RTS) segments have registered a CAGR of 10.4% from 2011-12 to 2020-21. India exported more than US\$ 2.14 billion worth of final food products in 2020-21. The major destination of RTE export in 2020-21 data is the U.S.A, U.A.E, and Nepal. The major exporting destination for RTC export in 2020-21 are U.S.A, Malaysia, and U.A.E.

Notes: * From April 2022 to November 2022

Source: APEDA

Food processing segments and private players

1

Fruits, Vegetables and Processed Grains



2

Milk and Milk Products



3

Meat, Poultry and Marine Products



4

Consumer Food (Alcoholic Beverages, Soft Drinks, Packaged Drinking Water, Packaged Food)



Recent Trends and Strategies



Rising demand of Indian products in international market

1 CHANGING CONSUMER TASTES

- The demand for fresh and processed products of all types is increasing as the population urbanizes, incomes rise, and consumption habits change.

2 EXPANSION OF INTERNATIONAL COMPANIES

- Nestlé plans to invest Rs. 50 billion (US\$ 613 million) in India by 2025 to accelerate its existing business in the country and capitalize on new growth opportunities.

3 RISING DEMAND ON INDIAN PRODUCTS IN INTERNATIONAL MARKET

- In November 2019, Haldiram entered into an agreement for Amazon's global selling program to E-tail its delicacies in the United States.

4 EMPHASIS ON HEALTHIER INGREDIENTS

- Food processing companies are serving health and wellness as a new ingredient in processed food because of it being low on carbohydrates and cholesterol, for example, zero-% trans fat snacks and biscuits, slim milk, and whole wheat products, etc.

8 HORTICULTURE OUTPUT/OUTLOOK

- The Indian agricultural sector is slowly shifting from traditional farming to horticulture and livestock production (poultry, dairy, and fisheries).

7 STRENGTHENING PROCUREMENT VIA DIRECT FARMER-FIRM LINKAGES

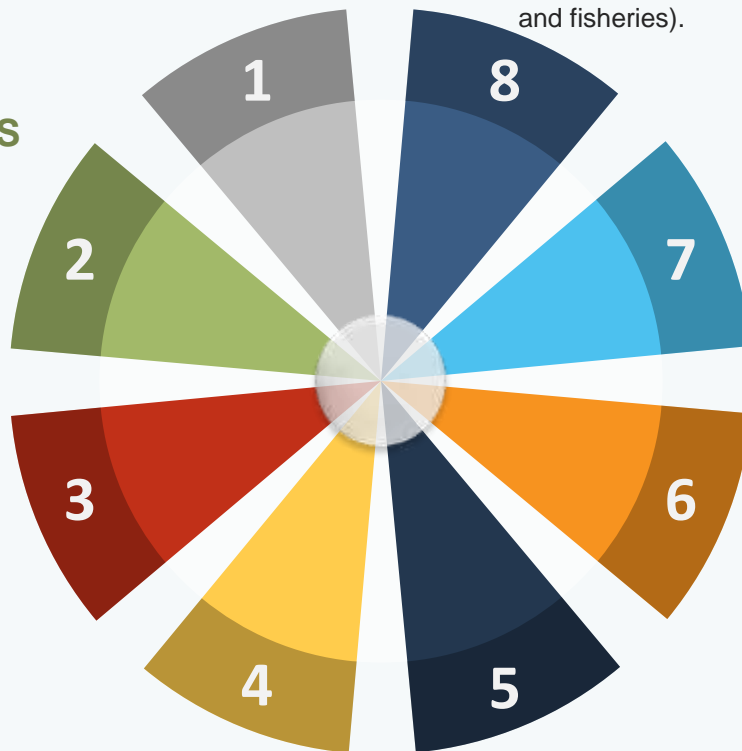
- As diversification towards high value horticulture crops is emerging as a major growth factor in agriculture, direct marketing by establishing farmer-consumer markets will help farmers realize better price.

6 PRODUCT INNOVATION AS THE KEY TO EXPANSION

- Heritage Foods, a Hyderabad-based company, has plans to add five more milk processing units in the next five years for an investment of US\$ 22.31 million as part of its expansion plan to achieve US\$ 1 billion turnover by 2022.

5 HIGHER CONSUMPTION OF HORTICULTURE CROPS

- According to the second advance estimate of horticulture production released by the Ministry of Agriculture, India is expected to have the highest ever horticulture production.



Strategies adopted

1 Rising business and product innovation

- India's food service market is expected to reach US\$ 79.65 billion by 2028, growing at a CAGR of 11.19% from US\$ 41.1 billion in 2022.
- The government is promoting the use of drones in agriculture by providing financial assistance through the 'Sub-Mission on Agriculture Mechanization.'
- Government aims to make India a global hub for 'Shree Anna', the Indian Institute of Millet Research, Hyderabad will be supported as the Centre of Excellence for sharing best practices, research and technologies at the international level.
- National Agriculture Market (eNAM) is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities. Integration of APMCs across the country through a common online market platform to facilitate pan-India trade in agriculture commodities, providing better price discovery through transparent auction process based on quality of produce along with timely online payment.



3 Low-cost price strategy

- Low-cost price strategy is adopted so as to make the product affordable to consumers by guaranteeing them value for money. For example, to penetrate deeper into the Indian households Kissan adopted a low-cost price strategy also known as penetration pricing strategy to make its products affordable and attractive to the consumers by giving them value for money.
- The demand for processed foods in India is constrained by low income and socio-cultural factors.
- Government has set up a special fund called the Food Processing Fund (FPF) of approximately US\$ 265 million in the National Bank for Agriculture and Rural Development (NABARD) for extending affordable credit to designated food parks and food processing enterprises in the designated food parks.

2 Research

- As per the Union Budget 2023-24, government aims to make India a global hub for 'Shree Anna', the Indian Institute of Millet Research, Hyderabad will be supported as the Centre of Excellence for sharing best practices, research and technologies at the international level.
- Agriculture Accelerator Fund to be set-up to encourage agri-startups by young entrepreneurs in rural area.

Source: Ministry of Agriculture and Farmers' Welfare, Government of India, News Sources, Union Budget 2023-24



Growth drivers of Indian agriculture

2 Supply-side drivers

- According to the Center for Environment and Agriculture (CENTEGRO) and Crop Care Federation of India (CCFI), India can become the 'global agricultural hub' for other countries, which have harsh weather, scarce labour and lands, and are seeking to outsource their agriculture.
- High level of agricultural production - large livestock base, wide variety of crops, inland water bodies and a long coastline, help increase marine production.
- Bringing Green Revolution to Eastern India (BGREI).



1 Demand-side drivers

- Rapid population expansion in India is the main factor driving the industry.
- Changing lifestyle and food habits due to increased disposable income
- The demand for processed foods in India is constrained by low income and socio-cultural factors.

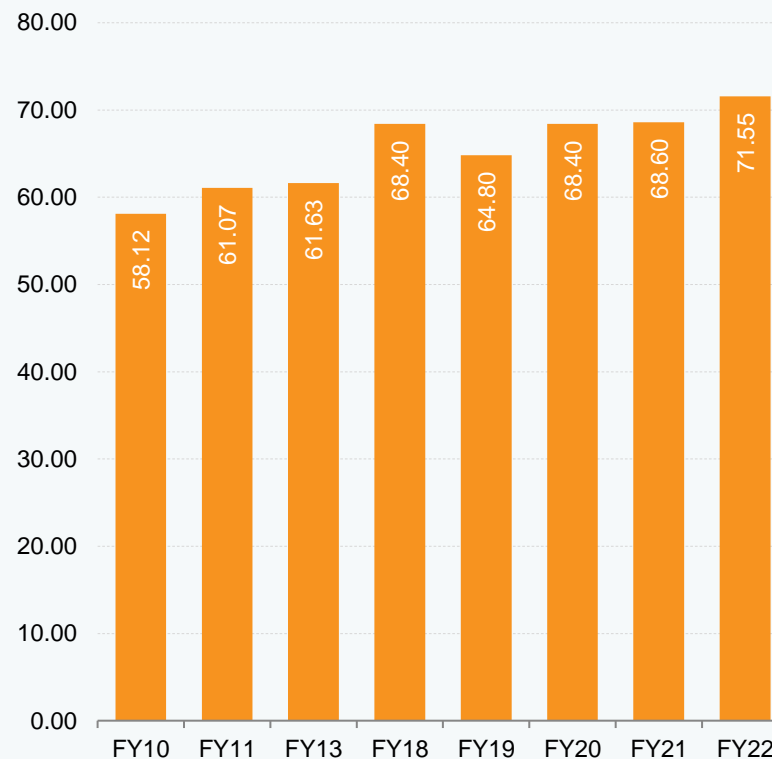
3 Policy support

- A new sub-scheme of PM Matsya Sampada Yojana with targeted investment of Rs. 6,000 crore (US\$ 729 million) to be launched to further enable activities of fishermen, fish vendors, and micro & small enterprises, improve value chain efficiencies, and expand the market.
- Online, Competitive, Transparent Bidding System with 1.74 crore farmers and 2.39 lakh traders put in place under the National Agriculture Market (e-NAM) Scheme.

Growing area under irrigation

- Gross irrigated area under food grains was estimated to reach 64.8 million hectares in FY19.
- Of the wide variety of crops in India, rice and wheat are the most irrigated.
- Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has been formulated with the vision of extending the coverage of irrigation 'Har Khet ko pani' and improving water use efficiency 'More crop per drop' in a focused manner with end-to-end solution on source creation, distribution, management, field application and extension activities.
- PMKSY has been formulated amalgamating ongoing schemes viz. Accelerated Irrigation Benefit Programme (AIBP) of the Ministry of Water Resources, River Development & Ganga Rejuvenation (MoWR,RD&GR), Integrated Watershed Management Programme (IWMP) of Department of Land Resources (DoLR) and the On Farm Water Management (OFWM) of Department of Agriculture and Cooperation (DAC).
- Under PMKSY-Per Drop More Crop, an area of 32.697 lakh hectare (ha) has been covered under micro irrigation in the country
- Under PMKSY-HKPP- Repair, Renovation and Restoration of water bodies (RRR of water bodies), a total of 395 water bodies have been taken up during 2018-2021.
- Climate-Smart Farming Practices: This is slowly gaining acceptance with farmers using clean energy sources like solar for irrigation.

Gross irrigated area (million hectares)

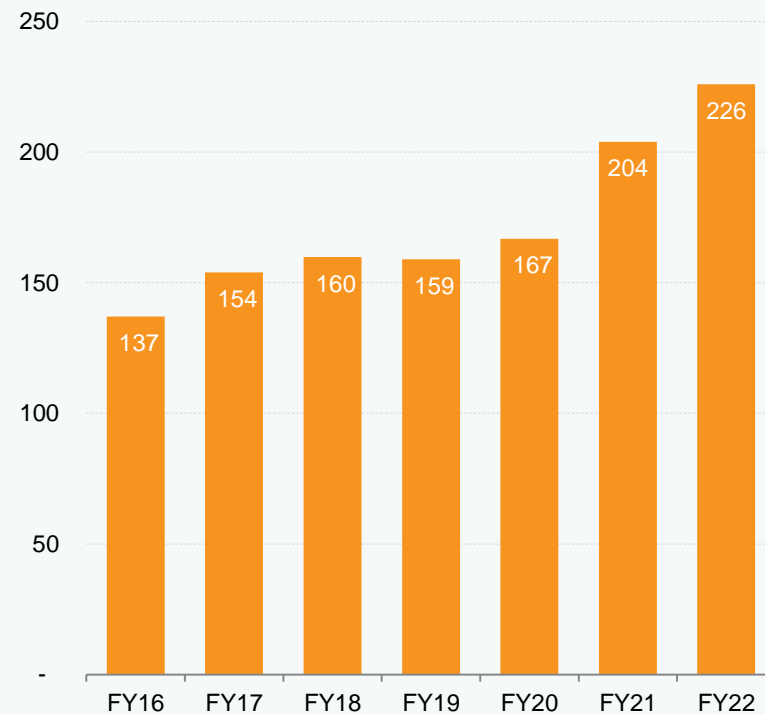


Source: News Articles, Ministry of Agriculture and Farmers Welfare

Institutional credit and investments on a rise

- The performance of the agriculture and allied sector has been buoyant over the past several years, much of which is on account of the measures taken by the government to augment crop and livestock productivity, ensure certainty of returns to the farmers through price support, promote crop diversification, improve market infrastructure through the impetus provided for the setting up of farmer-producer organizations and promotion of investment in infrastructure facilities through the Agriculture Infrastructure Fund.
- Private investment in agriculture increased to 9.3% in 2020-21.
- Institutional Credit to the Agricultural Sector continued to grow to Rs. US\$ 226 billion (18.6 lakh crore) in 2021-22.
- US\$ 1.66 billion (Rs. 13,681 crore) sanctioned for Post-Harvest Support and Community Farms under the Agriculture Infrastructure Fund.
- Free foodgrains to about 81.4 crore beneficiaries under the National Food Security Act for one year from January 1, 2023.
- The Centre has granted permission to five private companies to conduct cluster farming of specified horticulture crops on approximately 50,000 hectares on a trial basis, with a total investment of US\$ 91.75 million (Rs. 750 crore). The five companies chosen through a bidding process for the pilot cluster farming program are Prasad Seeds, FIL Industries, Sahyadri Farms, Meghalaya Basin Management Agency.
- 27,003 Loans have been sanctioned in the country under credit linked subsidy component of the PM Formalisation of Micro Food Processing Enterprises Scheme (PMFME).

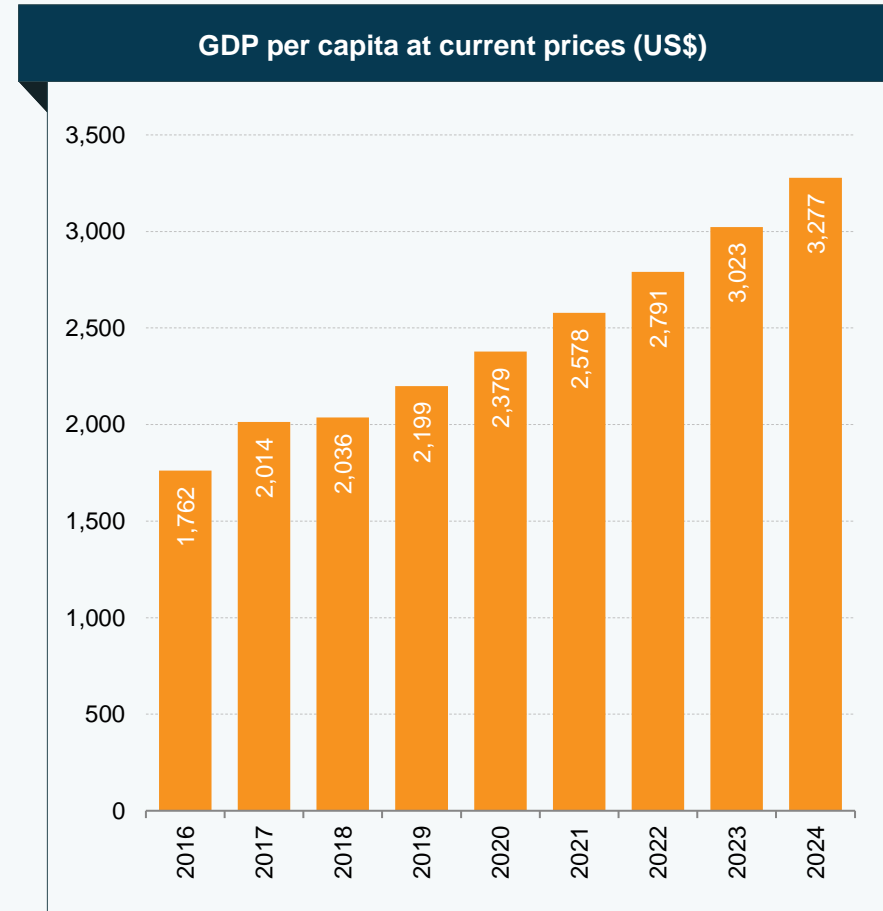
Credit to Agriculture & Allied Activities (outstanding) (US\$ billion)



Source: Ministry of Agriculture and Farmers' Welfare, Economic Survey 2023-24

Rising income and growing middle class to drive demand for processed food

- Strong growth in per capita income has resulted in greater demand for food items.
- Per capita GDP of India is expected to reach US\$ 3,277 in 2024 from US\$ 2,036 in 2018.
- India's food processing sector has been one of the key sectors, which is growing due to its response to the changing demographics and lifestyle, affordable workforce availability, free availability of raw materials, and is boosted by growth in export opportunities and government advocacy to develop food manufacturing. Since our processing sector is the world's biggest with to food production, supply and processing, backed by conducive conditions, its output can touch US\$ 535 billion by 2025-26, while generating jobs to the tune of 9 million by 2024. Hence, other than the processing industry, packaged and ready-to-eat (RTE) food too is poised to see a huge boom.
- The growth in these sectors are also propelled by the pandemic, hike in expendable income leading to increasing appetites for discretionary spends on branded items including processed food-items, a rejuvenated retail sector and state sponsorship.



Source: News Articles

Competitive advantage

- India has access to several natural resources that provides it a competitive advantage in the food processing sector. Due to its diverse agro-climatic conditions, it has a wide-ranging and large raw material base suitable for food processing industries.
- The Government of India targets production of 32 million tonnes of pulses by 2030.

Particulars	Units
Arable land (million hectares)	180.8
Area under irrigation (million hectares)	102.6
Coastline ('000 kilometers)	7.5
Cattle (million)	193.46*

Product	Production Value in 2022-23** (in US\$ million)
Albumin(Eggs & Milk)	29.51
Pulses	555.13
Meat (Buffalo, Sheep, Processed and Other)	2,942.66
Bananas	153.45
Mangoes (Jams Jellies Mrmlds Etc. Of Mangoes, Mango Pulp, Other Mangoes)	2,30,915.17
Tea (million kgs)	759.96
Rice	10,015.86
Wheat	1,513.89

*Note: ** - April 2022-February 2023.

Source: Ministry of Agriculture and Farmers' Welfare, Tea Board, Department of Animal Husbandry, Dairying & Fisheries, Press Information Bureau

Favourable policies are supporting the sector growth ... (1/4)

1

Agriculture Export Policy, 2018

- New export policy was cleared by the Government of India in December 2018.
- Targets increasing India's agricultural export to over US\$ 60 billion by 2022.

2

Pradhan Mantri Kisan Samman Nidhi Yojana (PM-Kisan)

- Prime Minister of India launched the Pradhan Mantri Kisan Samman Nidhi Yojana (PM-Kisan) Benefits under the PM Kisan plan have been delivered to about 11.78 crore farmers as of February 22nd 2022, and Rs. 1.82 lakh crore (US\$ 23.97 billion) have been released to qualified recipients across India in various payments.

3

Pradhan Mantri Annadata Aay SanrakshAn Abhiyan' (PM-AASHA)

- Pradhan Mantri Annadata Aay SanrakshAn Abhiyan' (PM-AASHA) is an umbrella scheme to ensure minimum support price (MSP) to farmers. It comprises the previous price support scheme (PSS), with few modifications and introduction of new schemes, including price deficiency payment scheme (PDPS) and pilot of private procurement and stockist scheme (PPSS).

4

Pradhan Mantri Krishi Sinchai Yojana (PMKSY)

- As per the Union Budget 2021-22, Rs. 11,588 crore (US\$ 1.5 billion) was allocated to Pradhan Mantri Krishi Sinchai Yojana (PMKSY).

5

Model Contract Farming & Services Act 2018

- In May 2018, the Government finalised the Model Contract Act to include all services in the agriculture value chain under its ambit along with contract farming activity. The act has laid special emphasis on protecting farmers' rights in the country.

Source: Ministry of Agriculture and Farmers' Welfare, Union Budget 2021-22

Favourable policies are supporting the sector growth ... (2/4)

6

Pradhan Mantri Kisan Maan-Dhan Yojana (PM-KMY)

- A minimum fixed pension of Rs. 3,000 (US\$ 42.92) will be provided to eligible small and marginal farmers on attaining the age of 60 years, subject to certain exclusion clauses.
- The beneficiary is required to make a monthly contribution between Rs. 55 to Rs. 200 (US\$ 0.78 to 2.86) to the Pension Fund depending on the age of entry into the scheme and a provision of equal contribution by the Central Government.

7

Dairy Sahakar scheme

- In October 2021, the Union Minister of Home Affairs and Cooperation launched the 'Dairy Sahakar' scheme in Anand, Gujarat.
- Under the scheme, financial support will be extended by the National Cooperative Development Corporation (NCDC) to eligible cooperatives for activities, such as bovine development, milk procurement, processing, quality assurance, value addition, branding, packaging, marketing, transportation and storage of milk and milk products. Exports of dairy products within the comprehensive objectives of 'Doubling the farmers income' and 'Atmanirbhar Bharat' will also be covered.
- The scheme with a total investment of Rs. 5,000 crore (US\$ 667.26 million) will be implemented by NCDC under the Ministry of Cooperation.

8

Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PM FME)

- Outlay of Rs. 10,000 crore (US\$ 1.34 billion) over a period of five years from FY21 to FY25.
- The sector has been assigned a priority status for bank credit.
- Implemented in 707 districts for 35 states and union territories
- 60 Agri Export Zones (AEZ) have been set up across the country.
- 11 banks are official lending partners under this scheme

9

APMC farmers go cashless

- The Electronic National Agriculture Market (e-NAM), which was launched in April 2016 to create a unified national market for agricultural commodities by networking existing APMCs. It had 16.9 million farmers and 157,778 traders registered on its platform until February 2021. Over 1,000 mandis in India are already linked to e-NAM and 22,000 additional mandis are expected to be linked by 2021-22.

10

Digital Agriculture Mission

- The Indian government has initiated Digital Agriculture Mission for 2021-25 for agriculture projects based on new technologies such as artificial intelligence, block chain, remote sensing and GIS technology, drones, robots and others.

Favourable policies are supporting the sector growth ... (3/4)

11

Krishi UDAN 2.0

- Ministry of Civil Aviation launched the Krishi UDAN 2.0 scheme in October 2021.
- The scheme proposes assistance and incentive for movement of agri-produce by air transportation.
- The Krishi UDAN 2.0 will be implemented at 53 airports across the country largely focusing on Northeast and tribal regions and is expected to benefit farmers, freight forwarders and airlines.

12

Focus on infrastructure

- The sector has been assigned a priority status for bank credit.
- 60 Agri Export Zones (AEZ) have been set up across the country.
- Between FY15-20, around 1303 cold storages with 45 lakh tonnes have been established.
- In May 2020, Government announced the launch of animal husbandry infrastructure development fund of Rs. 15,000 crore (US\$ 2.13 billion).

13

National Mission on Food Processing

- Ministry of Food Processing Industries (MOFPI) launched a new centrally sponsored scheme (CSS), National Mission on Food Processing, to promote facilities for post-harvest operations, including setting up of food processing industries in India. In Union Budget 2019-20, the Government announced to spend Rs. 110 crore (US\$ 15.74 million) in Union Territories only.

14

Agricultural Pump Power Policy

- Announced in December 2020.
- As of March 2021, a total of 582,114 farmers in Maharashtra have paid the arrears of agricultural pump electricity bills amounting to Rs. 511.26 crore (US\$ 63.37 million).

15

Pradhan Mantri Fasal Bima Yojana (PMFBY)

- Aims to support sustainable production in agriculture by providing financial support to farmers who have incurred crop losses/damages due to unforeseen events. This will help stabilise the income of farmers, ensure continuance in farming, encourage them to adopt innovative and modern agricultural practices and ensure flow of credit to the agriculture sector.

Source: Ministry of Agriculture & Farmers' Welfare

Favourable policies are supporting the sector growth ... (4/4)

16

Paramparagat Krishi Vikas Yojana (PKVY)

- An extended component of Soil Health Management (SHM) under the Centrally Sponsored Scheme (CSS), National Mission on Sustainable Agriculture (NMSA).
- PKVY aims at supporting and promoting organic farming, in turn resulting in improvement of soil health.

17

National Agriculture Market (e-NAM) Scheme

- National Agriculture Market (eNAM) is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities.
- Integration of APMCs across the country through a common online market platform to facilitate pan-India trade in agriculture commodities, providing better price discovery through transparent auction process based on quality of produce along with timely online payment.

18

PM Matsya Sampada Yojana

- PM Matsya Sampada Yojana with targeted investment of Rs.6,000 crore (US\$ 729 million) to be launched to further enable activities of fishermen, fish vendors, and micro & small enterprises, improve value chain efficiencies, and expand the market.

19

Soil Health Card Scheme

- This scheme has been introduced to assist State Governments to issue Soil Health Cards to all farmers in the country. The Soil Health Cards provide information to farmers on nutrient status of their soil along with recommendation on appropriate dosage of nutrients to be applied for improving soil health and its fertility.

20

Pradhan Mantri Fasal Bima Yojana (PMFBY) & Restructured Weather Based Crop Insurance Scheme (RWBCIS)

- These schemes aim to provide comprehensive crop insurance coverage from pre-sowing to post harvest losses against non-preventable natural risks.
- These schemes are only risk mitigation tools available to farmers at extremely low premium rates payable by farmers.

Highlights of Union Budget 2023-24

- Agriculture Accelerator Fund to be set-up to encourage agri-startups by young entrepreneurs in rural area. which will aim at bringing innovative and affordable solutions for challenges faced by farmers. It will also bring in modern technologies to transform agricultural practices, increase productivity and profitability.
- To make India a global hub for 'Shree Anna', the Indian Institute of Millet Research, Hyderabad will be supported as the Centre of Excellence for sharing best practices, research and technologies at the international level.
- Rs. 20 lakh crore (US\$ 24.41 billion) agricultural credit targeted at animal husbandry, dairy and fisheries.
- A new sub-scheme of PM Matsya Sampada Yojana with targeted investment of Rs. 6,000 crore (US\$ 729 million) to be launched to further enable activities of fishermen, fish vendors, and micro & small enterprises, improve value chain efficiencies, and expand the market.
- Massive decentralised storage capacity to be set up to help farmers store their produce and realize remunerative prices through sale at appropriate times.
- Computerisation of 63,000 Primary Agricultural Credit Societies (PACS) with an investment of Rs. 2,516 crore (US\$ 305.9 million) initiated.
- *Digital Public Infrastructure for Agriculture*: agriculture will be built as an open source, open standard and inter operable public good. this will enable inclusive, farmer-centric solutions through relevant information services for crop planning and health, improved access to farm inputs, credit, and insurance, help for crop estimation, market intelligence, and support for growth of agri-tech industry and start-ups.
- To enhance the productivity of extra-long staple cotton, Government will adopt a cluster-based and value chain approach through Public Private Partnerships (PPP). This will mean collaboration between farmers, state and industry for input supplies, extension services, and market linkages.

Source: Union Budget 2023-24

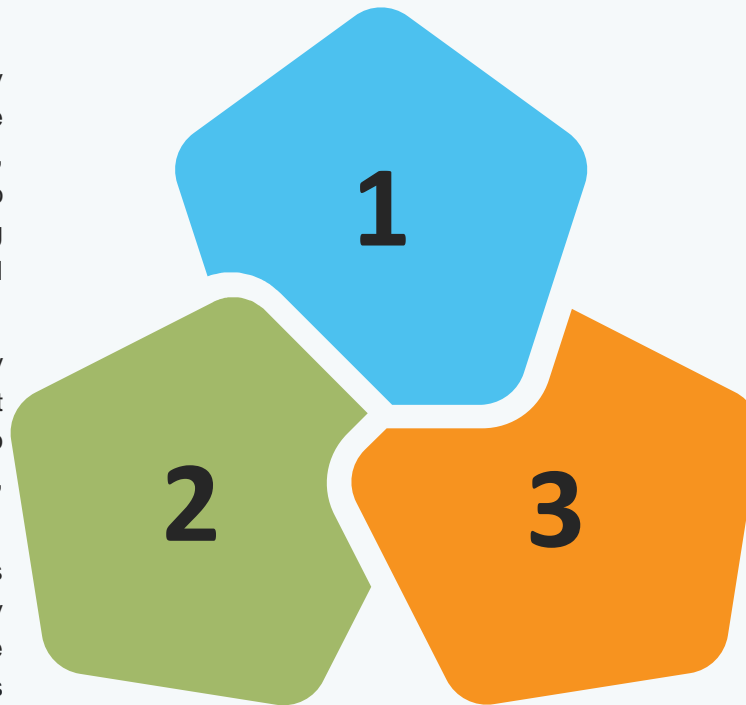
Opportunities



OPPORTUNITIES

1 Supply chain infrastructure

- Technology-driven, integrated supply chains enable entities to reduce inventory and costs, add product value, extend resources, accelerate time to market, expand market, increase pricing for sellers and variety for buyers as well as retain customers.
- In order to have a successful supply chain, the Indian Government has sought to involve multiple stakeholders to improve interactions between farmers, processors, distributors and retailers.
- The nation's processed food industry is expected to grow to US\$ 958 billion by 2025 at a compound annual growth rate (CAGR) of 12%. The government's focus is on supply chain-related infrastructures like cold storage, abattoirs and food parks.



2 Potential global outsourcing hubs

- Huge opportunity exists for agri input segments like seeds and plant growth nutrients.
- According to the Center for Environment and Agriculture (CENTEGRO) and Crop Care Federation of India (CCFI), India can become the 'global agricultural hub' for other countries, which have harsh weather, scarce labour and lands, and are seeking to outsource their agriculture.

3 Farm management services

- Given the importance of agriculture in India, both the government and private players are working to improve the efficiency and productivity of Indian agriculture and exploring how Farming as a Service (FaaS) solutions can play a role.
- FaaS seeks to provide affordable technology solutions for efficient farming. It converts fixed costs into variable costs for farmers, thus making the techniques more affordable for a majority of small farmers. Its services are available on a subscription or pay-per-use basis in three broad categories, which are crucial across the agriculture value chain.

Government initiatives that will further prop up the sector ... (1/3)

- Rs..2.37 lakh crore (US\$ 30.37 billion) direct payments would be provided to 1.63 crore farmers for procurement of wheat and paddy.
- In 2022, the Indian government is planning to launch Kisan Drones for crop assessment, digitization of land records, spraying of insecticides and nutrients.
- Rs. 1.24 lakh crore (US\$ 15.9 billion) has been allocated to Department of Agriculture, Cooperation and Farmers' Welfare.
- The present procurement operations as of 2021 have already benefited ~4.91 million farmers, with an MSP (minimum support price) of US\$ 11.51 billion.
- The Indian government is planning to increase the number of primary agriculture cooperatives from 60,000 to 3 lakh until 2026.
- The Agriculture Ministry would offer agricultural institutes with a grant of up to Rs. 10 lakh (US\$ 13,175) for the procurement of drones.
- In October 2021, the Union Ministry of Agriculture and Farmers Welfare announced that 820,600 seed mini-kits will be distributed free of cost in 343 identified districts across 15 major producing states under a special programme. This programme is likely to boost production and productivity by speeding up the seed replacement rate and subsequently, help in increasing farmer's income.
- In September 2021, the Union Minister for Agriculture and Farmers' Welfare Mr. Narendra Singh Tomar launched 'Amul Honey – a product of Gujarat Cooperative Milk Marketing Federation Ltd. (GCMMF)' along with the 'National Bee Board (NBB)'.
- In September 2021, the Union Ministry of Agriculture and Farmers' Welfare signed five MoUs with CISCO, Ninjacart, Jio Platforms Limited, ITC Limited and NCDEX e-Markets Limited. This MoU will have five pilot projects, which will help farmers make decisions on the kind of crops to grow, variety of seeds to use and best practices to adopt to maximise yield.
- In September 2021, Prime Minister Mr. Narendra Modi launched 35 crop varieties with special traits such as climate resilience and higher nutrient content.
- From 2017 to 2020, India received ~US\$ 1 billion in agritech funding. With significant interest from investors, India ranks third in terms of agritech funding and number of agritech start-ups. By 2025, Indian agritech companies are likely to witness investments worth US\$ 30-35 billion. As of September 2021, agritech funding reached US\$ 190 million.
- In the next five years, the central government will aim US\$ 9 billion in investments in the fisheries sector under PM Matsya Sampada Yojana. The government is targeting to raise fish production to 220 lakh tonnes by 2024-25.

Source: Press Information Bureau, Ministry of Agriculture and Farmers' Welfare, DIPP; Note: RFID - Radio Frequency Identification, News Sources, Edelweiss' Farm Facts Sector Update

Government initiatives that will further prop up the sector ... (2/3)

- In March 2021, the Union Cabinet, chaired by Prime Minister Mr. Narendra Modi, approved a memorandum of understanding (MoU) between the Ministry of Agriculture and Farmers' Welfare of India and the Ministry of Agriculture of Fiji for co-operation in the field of agriculture and allied sectors.
- In October 2020, the Tribal Cooperative Marketing Development Federation of India (TRIFED) included 100 new Forest Fresh Organic Products sourced from tribes across India on its e-marketplace (tribesindia.com).
- In October 2020, Agri-lender Nabard (National Bank for Agriculture and Rural Development) proposed plans to set up a subsidiary to provide guarantee for loans under agriculture and rural development.
- In October 2020, the government announced that it is putting up a common data infrastructure for farmers in the country. PMFBY (Pradhan Mantri Fasal Bima Yojana), PM-Kisan and the Soil Health Card will be integrated through a common database, along with land record details.
- In September 2020, National Cooperative Development Corporation (NCDC) sanctioned Rs.19,444 crore (US\$ 2.7 billion), as the first instalment, to Chhattisgarh, Haryana and Telangana for kharif paddy procurement under minimum support price (MSP) operations.
- In September 2020, the government launched the PM Matsya Sampada Yojana, e-Gopala App and several initiatives in fisheries production, dairy, animal husbandry and agriculture. Under this scheme, an investment of Rs. 20,000 crore (US\$ 2.7 billion) will be made in the next 4-5 years in 21 states.
- In May 2020, the Government of India announced an infrastructure development fund of Rs. 15,000 crore (US\$ 2.31 billion) to promote investments by private players and MSMEs in segments such as dairy, meat processing and animal feed plants.
- Allocation of US\$ 3.9 billion for RFID, US\$ 234 million for long-term rural credit fund, US\$ 7.03 billion for short-term cooperative rural credit finance fund, and US\$ 3.9 billion for short - term RRB refinance fund.
- Food Processing Industries have taken few initiatives for developing the food processing sector that would enhance the exports of agro and processed foods and income of farmers.
- The Agricultural Technology Management Agency (ATMA) Scheme has been implemented in 704 districts across 28 states and 5 UTs to educate farmers. Grants-in-aid are released to the State Government under the scheme with the goal of supporting State Governments' efforts to make available the latest agricultural technologies and good agricultural practices in various thematic areas of agriculture and allied sector.
- The Government is planning to invest US\$ 8 billion to revive four fertilizer plants and setting up two plants to produce farm nutrients.
- Since its inception, i.e. from 01.04.2001 to 31.12.2022, a total of 42164 storage infrastructure projects (Godowns) with a capacity of 740.43 Lakh MT have been assisted in the country under the Agricultural Marketing Infrastructure (AMI) sub-scheme of the Integrated Scheme for Agricultural Marketing (ISAM).

Source: Ministry of Agriculture and Farmers' Welfare, DIPP; Note: RFID - Radio Frequency Identification, News Sources

Government initiatives that will further prop up the sector ... (3/3)

- To enhance the income of farmers, the government has taken initiatives across several focus areas. Income support is provided to farmers through PM KISAN Scheme, crop insurance is assured through the Pradhan Mantri Fasal Bima Yojana, and irrigation facilities are ensured under Pradhan Mantri Krishi Sinchai Yojana.
- Access to institutional credit is being provided through Kisan Credit Card and other channels.
- Under the e-NAM initiative, markets across the length and breadth of the nation are now open to farmers, to enable them to get more remunerative prices for their produce. Online, Competitive, Transparent Bidding System with 1.74 crore farmers and 2.39 lakh traders put in place under the National Agriculture Market (e-NAM) Scheme.
- The umbrella scheme Pradhan Mantri Annadata Aay SanraksHan Abhiyan (PM-AASHA) ensures Minimum Support Price (MSP) to farmers for various Kharif and Rabi crops while also keeping a robust procurement mechanism in place.
- As per the Economic Survey 2022-23, US\$ 1.66 billion (Rs. 13,681 crore) sanctioned for Post-Harvest Support and Community Farms under the Agriculture Infrastructure Fund.
- In order to increase the level of food- processing industry and encouraging rural entrepreneurship across the country including rural areas, Ministry Food Processing Industries (MoFPI) is implementing Central Sector Umbrella Scheme Pradhan Mantri Kisan SAMPADA Yojana (PMKSY), Production Linked Incentive Scheme for Food Processing Industry (PLISFPI) and Centrally sponsored PM Formalization of Micro Food Processing Enterprises (PMFME) Scheme.
- Under the centrally sponsored, Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME) Scheme carried out by the Ministry of Food Processing Industries (MoFPI), One District One Product (ODOP) has been approved for 713 districts of 35 States/UTs out of all 766 districts across 36 States/UTs. Under the credit-linked subsidy component of the PMFME Scheme, 27,003 loans have been sanctioned in the country in 2022-23.
- Under component schemes of PMKSY, MoFPI mostly provides financial assistance in the form of grants-in-aid to entrepreneurs for creation of modern infrastructure and setting up of food processing / preservation industries including Cold Chains with associated infrastructure like primary processing facilities, collection centres, pre-conditioning, pre-cooling, ripening, packing etc.
- As per the Union Budget, 2023-24, A new sub-scheme of PM Matsya Sampada Yojana with targeted investment of Rs. 6,000 crore (US\$ 729 million) to be launched to further enable activities of fishermen, fish vendors, and micro & small enterprises, improve value chain efficiencies, and expand the market.

Source: Press Information Bureau, Economic Survey 2022-23, Union Budget 2023-24

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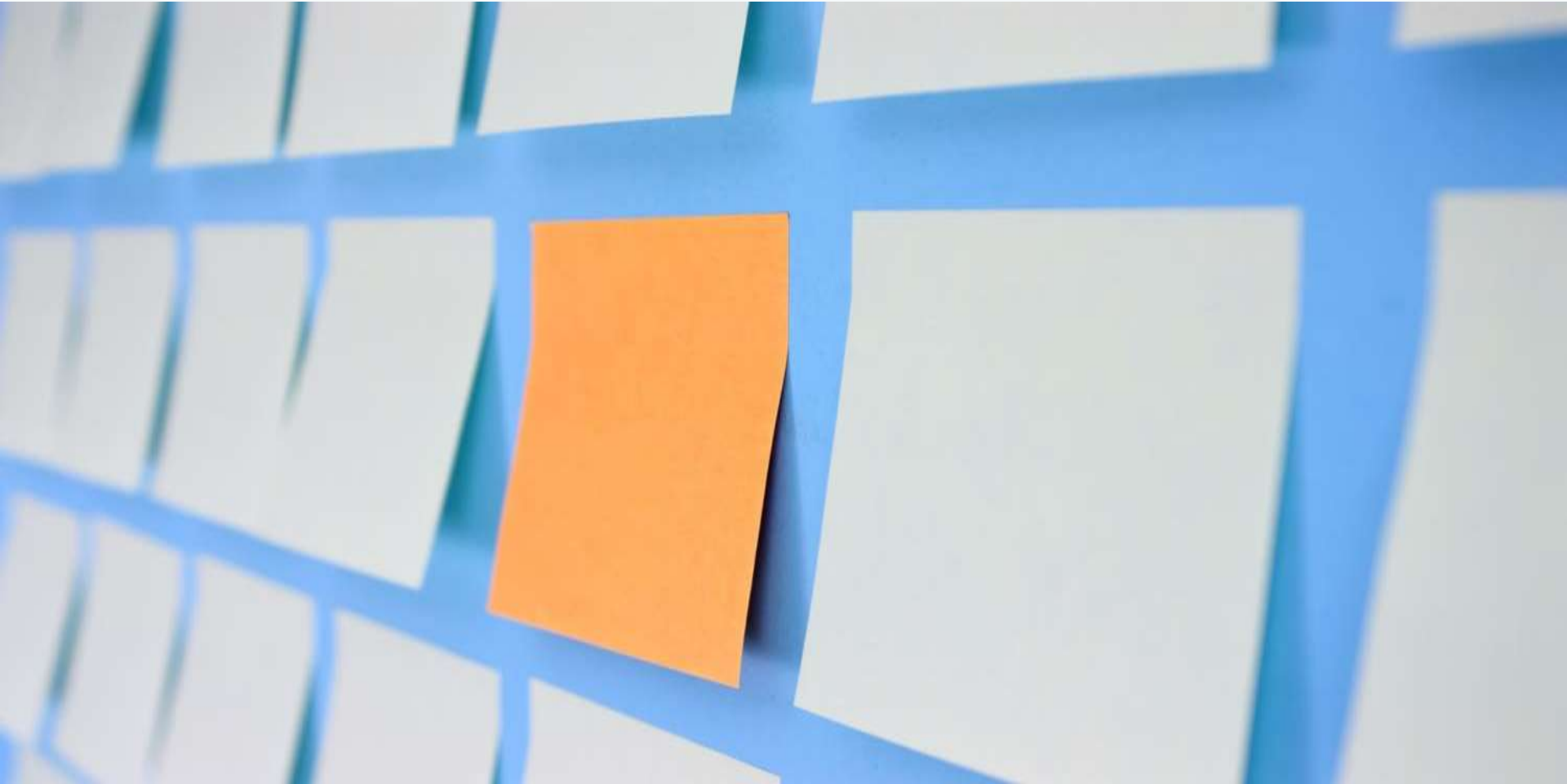
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Glossary

- AIBP: Accelerated Irrigation Benefit Programme
- Breeder seeds: Seeds move from germ-plasm (research) stage to breeder stage
- CAGR: Compound Annual Growth Rate
- Certified/quality seeds: Foundation seeds are further multiplied to get certified seeds, which are sold to farmers
- FMTTI: Farm Machinery Training and Testing Institutes
- Foundation seeds: Breeder seeds are multiplied as foundation seeds
- FY: Indian Financial Year (April to March); So, FY12 implies April 2011 to March 2012
- KCC: Kisan Credit Card
- MSP: Minimum Support Prices
- NFSM: National Food Security Mission
- NMAM: National Mission on Agricultural Mechanisation
- PGN: Plant Growth Nutrients
- RKVY: Rashtriya Krushi Vikas Yojana is a central Government scheme providing funds to state Governments to spend on agriculture
- Wherever applicable, numbers have been rounded off to the nearest whole number

Exchange rates

Exchange Rates (Fiscal Year)

Year	Rs. Equivalent of one US\$
2004-05	44.95
2005-06	44.28
2006-07	45.29
2007-08	40.24
2008-09	45.91
2009-10	47.42
2010-11	45.58
2011-12	47.95
2012-13	54.45
2013-14	60.50
2014-15	61.15
2015-16	65.46
2016-17	67.09
2017-18	64.45
2018-19	69.89
2019-20	70.49
2020-21	73.20
2021-22	74.42
2022-23	78.60

Exchange Rates (Calendar Year)

Year	Rs. Equivalent of one US\$
2005	44.11
2006	45.33
2007	41.29
2008	43.42
2009	48.35
2010	45.74
2011	46.67
2012	53.49
2013	58.63
2014	61.03
2015	64.15
2016	67.21
2017	65.12
2018	68.36
2019	69.89
2020	74.18
2021	73.93
2022	79.82
2023*	82.74

Note: *- Until May 2023

Source: Foreign Exchange Dealers' Association of India

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