

Industry Research Report on Agri Equipment Sector

23rd September 2026

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1 Economic Outlook

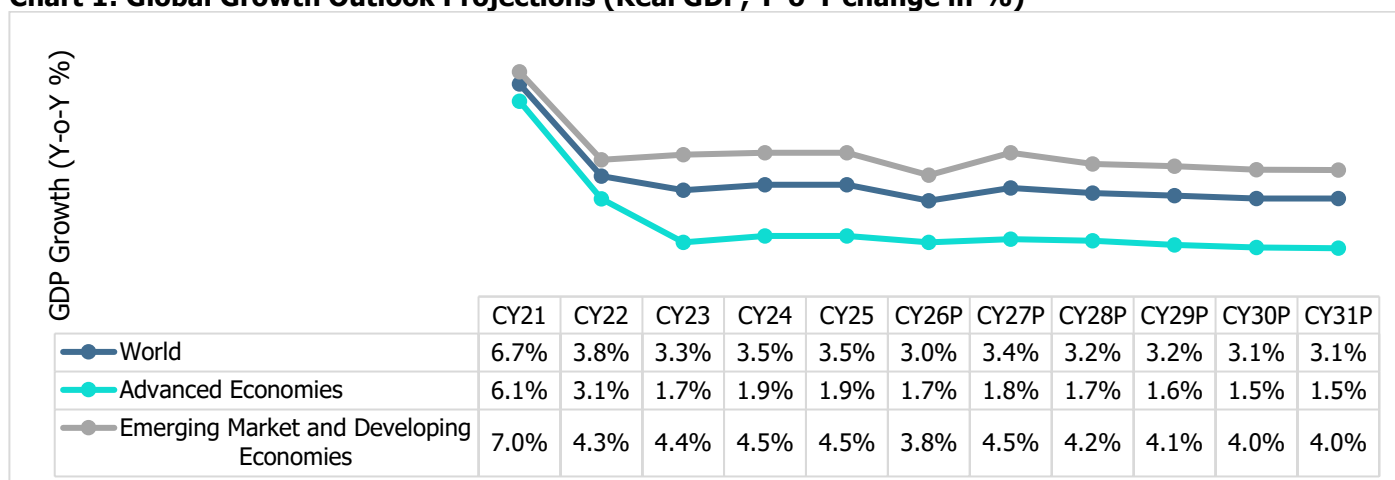
1.1 Global Economy

Global Economic Growth Expected to Sustain at ~3% in Near Term

Global economic growth is projected to moderate to around 3.1% in 2026, reflecting the impact of geopolitical tensions in energy and trade flows. The ongoing Middle East conflict poses downside risks with prolonged disruptions, potentially reducing growth further to 2.5%, or lower.

However, supportive factors such as continued investment momentum and policy support are helping offset some of these pressures.

Chart 1: Global Growth Outlook Projections (Real GDP, Y-o-Y change in %)



Source: IMF – World Economic Outlook, July 2026; Notes: P-Projection. Advanced Economies: Euro Area, Major Advanced Economies (G7), Other Advanced Economies (Advanced Economies excluding G7 and Euro Area), European Union, ASEAN-5; Emerging Market and Developing Economies: Emerging and Developing Asia, Emerging and Developing Europe, Latin America and the Caribbean, Middle East and Central Asia, Sub-Saharan Africa.

Table 1: GDP growth trend comparison - India v/s Other Economies (Real GDP, Y-o-Y change in %)

	Country	Real GDP (Y-o-Y change in %)										
		CY21	CY22	CY23	CY24	CY25	CY26P	CY27P	CY28P	CY29P	CY30P	CY31P
	India	9.69	7.61	7.21	7.10	7.70	6.40	6.70	6.50	6.52	6.50	6.51
	China	8.56	3.11	5.38	5.00	5.00	4.60	4.10	4.00	3.67	3.35	3.29
	Indonesia	3.70	5.31	5.05	5.00	5.10	5.00	5.10	5.17	5.19	5.22	5.23
	Saudi Arabia	6.52	12.00	0.54	2.60	4.60	1.70	5.50	3.65	3.54	3.52	3.55
	Middle East	4.69	6.37	2.58	3.10	3.70	0.70	6.50	3.96	3.96	3.82	3.78
	Latin America	7.50	4.30	2.33	2.40	2.40	2.40	2.70	2.87	2.86	2.75	2.63
	Brazil	4.76	3.02	3.24	3.40	2.30	2.40	2.20	2.35	2.50	2.50	2.50
	Euro Area	6.42	3.64	0.44	1.00	1.40	0.90	1.20	1.36	1.24	1.12	1.10
	United States	6.15	2.52	2.94	2.80	2.10	2.30	2.20	2.10	1.88	1.75	1.76

Source: IMF, World Economic Outlook Database (July 2026)

Note: P- Projections, E-Estimated; India's fiscal year (FY) aligns with the IMF's calendar year (CY). For instance, FY24 corresponds to CY23.

1.2 Indian Economic Outlook

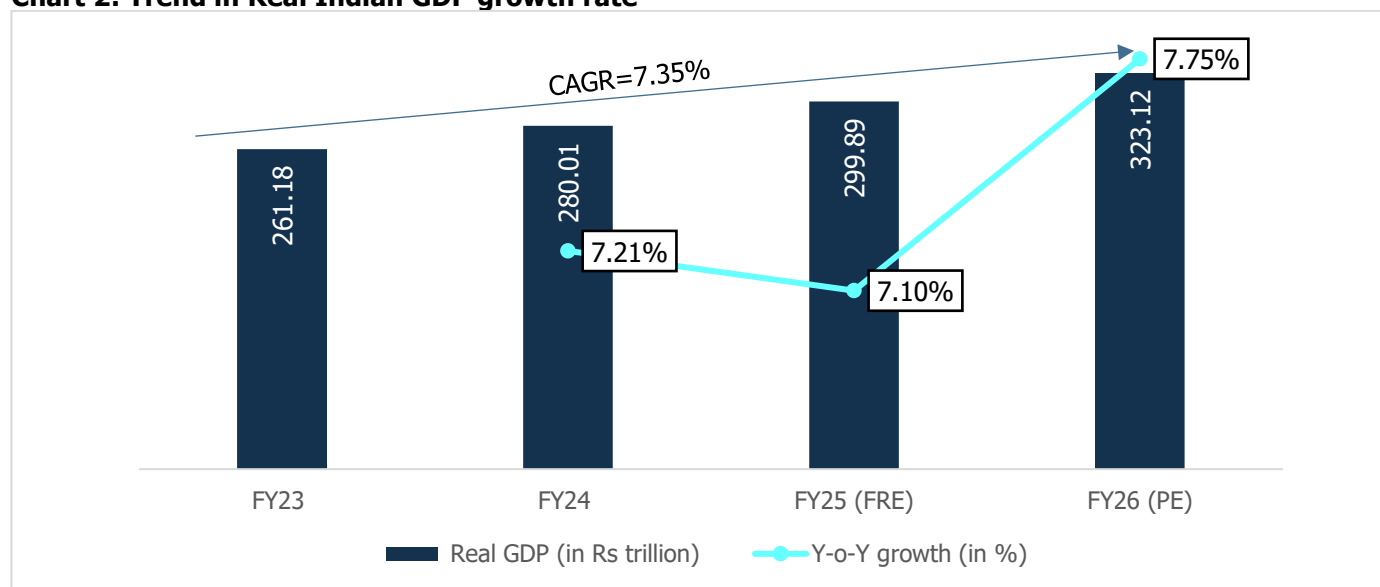
1.2.1 GDP Growth and Outlook

Resilience to External Shocks remains Critical for Near-Term Outlook

The Indian economy continues to show rapid growth. As per provisional estimates, GDP in FY26 is expected to have grown by 7.75%, supported by strong domestic consumption, investment, manufacturing and services activity. The economy showed resilience while the global economic environment remains challenging due to geopolitical tensions, trade-policy uncertainty and financial vulnerabilities.

For FY26, provisional estimates show a growth of 7.75% (Rs 323.12 trillion), led by robust performance in manufacturing, construction and financial services. Consumer spending rose by 7.70%, and government spending increased by 5.50%, both contributing to the overall growth. In FY23, the real GDP stood at Rs 261.18 trillion and registered Y-o-Y growth of 7.21% in FY24 (Rs 280.01 trillion).

Chart 2: Trend in Real Indian GDP growth rate



Source: MOSPI, Reserve Bank of India.

Note: FE – Final Estimate, FRE- First Revised Estimates, SAE – Second Advance Estimates, F - Forecasted

GDP Growth Outlook (August 2026)

FY27 GDP Outlook: The Reserve Bank of India (RBI) projects real GDP growth at 6.70% for 2026–27, supported by sustained momentum in the services sector, strong reservoir levels aiding the agricultural sector, and private consumption expected to remain uplifted by discretionary spending.

However, elevated energy and other commodity prices, cost pressures, as well as the travel disruptions in the Strait of Hormuz are likely to affect growth this year. However, the government is working towards minimising the impact of the supply chain disruptions towards critical sectors to ensure limited interruptions.

Table 2: RBI's GDP Growth Outlook (Y-o-Y %)

FY27P (Complete Year)	Q1FY27P	Q2FY27P	Q3FY27P	Q4FY27P
6.8%	7.0%	6.4%	6.2%	6.4%

Source: Reserve Bank of India; Note: P-Projected

1.2.2 Gross Value Added (GVA)

GVA is the measure of the value of goods and services produced in an economy. GVA gives a picture of the supply side, whereas GDP represents consumption. GVA in FY25 was powered by a broad-based rebound across sectors.

In FY26 (PE), real GVA growth of 7.9% is primarily led by manufacturing, Trade, Hotels, Transport, Communication & Services related to Broadcasting. Industry is estimated at 8.5%, supported by a pickup in manufacturing and construction (10.7% and 7.4%, respectively). The gap between GDP and GVA growth stood at 0.2 percentage points in FY26, with GDP growing at 7.7% and GVA at 7.9%.

Table 3: Sectoral Growth at Constant Prices (Y-o-Y % Growth)

At Constant Prices	FY24	FY25 (FRE)	FY26 (PE)
Agriculture, Forestry & Fishing	2.60	4.20	3.00
Industry	10.90	8.30	8.50
Mining & Quarrying	2.40	11.70	5.20
Manufacturing	12.70	9.30	10.70
Electricity, Gas, Water Supply & Other Utility Services	10.70	2.90	1.70
Construction	9.90	7.30	7.40
Services	7.00	7.90	9.30
Trade, Hotels, Transport, Communication & Broadcasting	10.10	6.60	11.00
Financial, Real Estate & Professional Services	5.50	10.00	10.40
Public Administration, Defence and Other Services	6.80	5.00	5.00
GVA at Constant Price	7.20	7.30	7.90

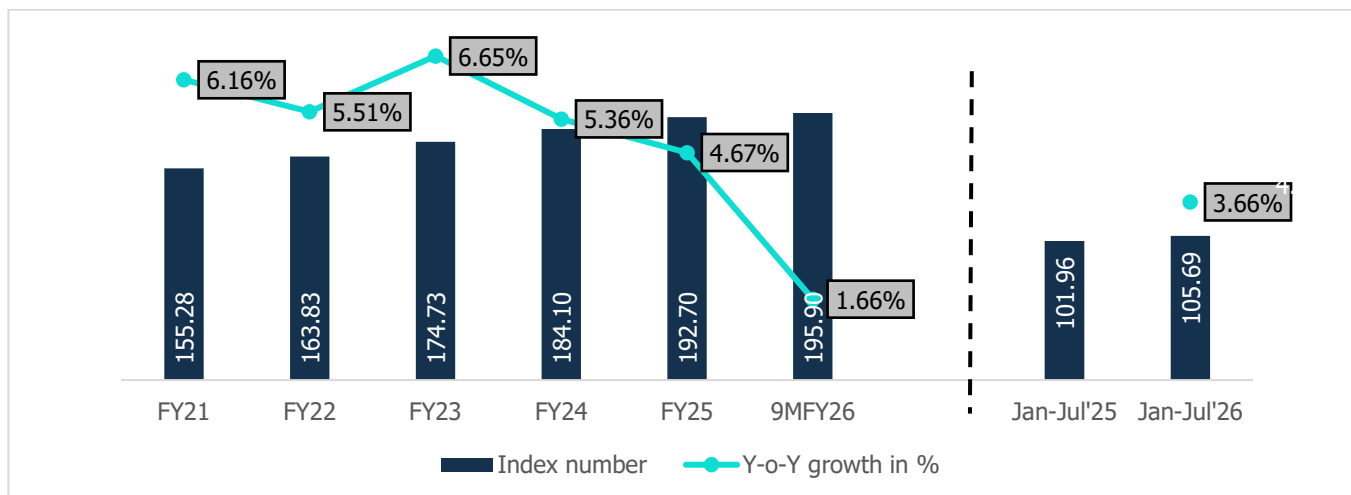
Source: MOSPI; Note: FRE- First Revised Estimates, PE – Provisional Estimates;

The trend for FY24-FY26 is based on new series base year 2022-23.

1.2.3 Consumer Price Index

Between January and July 2026, inflation averaged around 3.66% across the Consumer Price Index. By July 2026, inflation increased to 4.45% on a Year-on-Year basis, compared with 4.38% in June 2026 over June 2025. Within this, the rural inflation rate stood at 4.84%, while the urban inflation rate was comparatively lower at 3.96%. This indicates an overall modest inflationary trend, with rural areas experiencing relatively higher price pressures than urban regions.

Chart 3: Retail Price Inflation in terms of index and Y-o-Y Growth in % (Base: 2011-12=100)

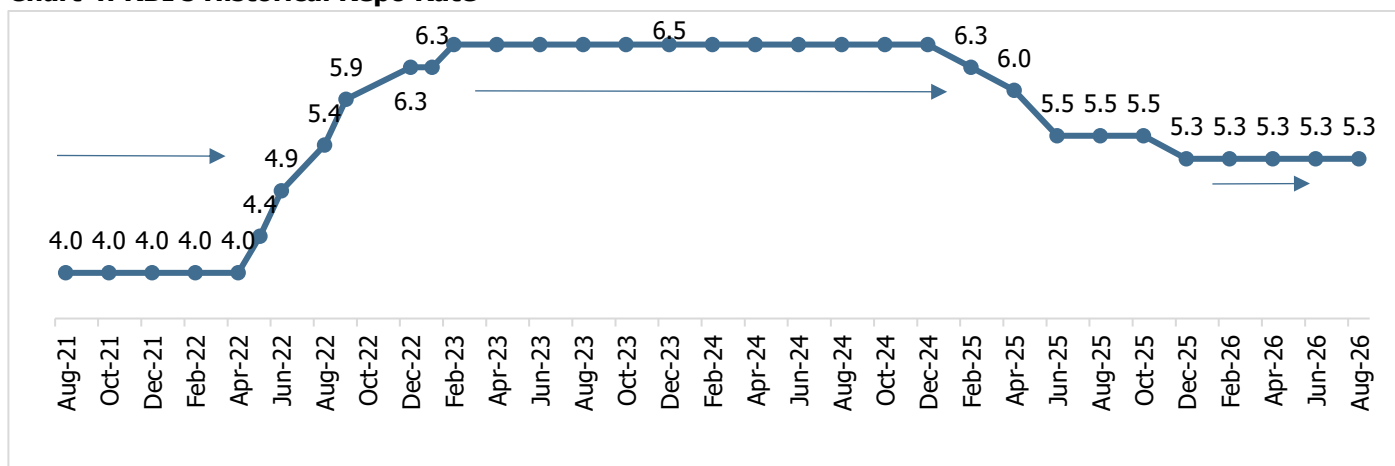


Source: MOSPI

The CPI is primarily factored in by the RBI while preparing its bi-monthly monetary policy. At the bi-monthly meeting held in August 2026, the RBI projected inflation at 5.00% for FY27, with inflation during Q2FY27 at 4.70%, Q3FY27 at 5.90%, Q4FY27 at 5.50%, and Q1FY28 at 5.30%.

Considering the current inflation situation, RBI has maintained the repo rate at 5.25% in the August 2026 meeting of the Monetary Policy Committee (MPC).

Chart 4: RBI's Historical Repo Rate



Source: RBI

RBI maintained a 'neutral' monetary policy stance, even as the Monetary Policy Committee (MPC) noted an increase in geopolitical tensions. The RBI has adopted a non-inflationary growth strategy, supported by strong demand and supply fundamentals while maintaining macroeconomic stability. With volatile trade conditions in view, the domestic growth and inflation curve requires policies to be supportive.

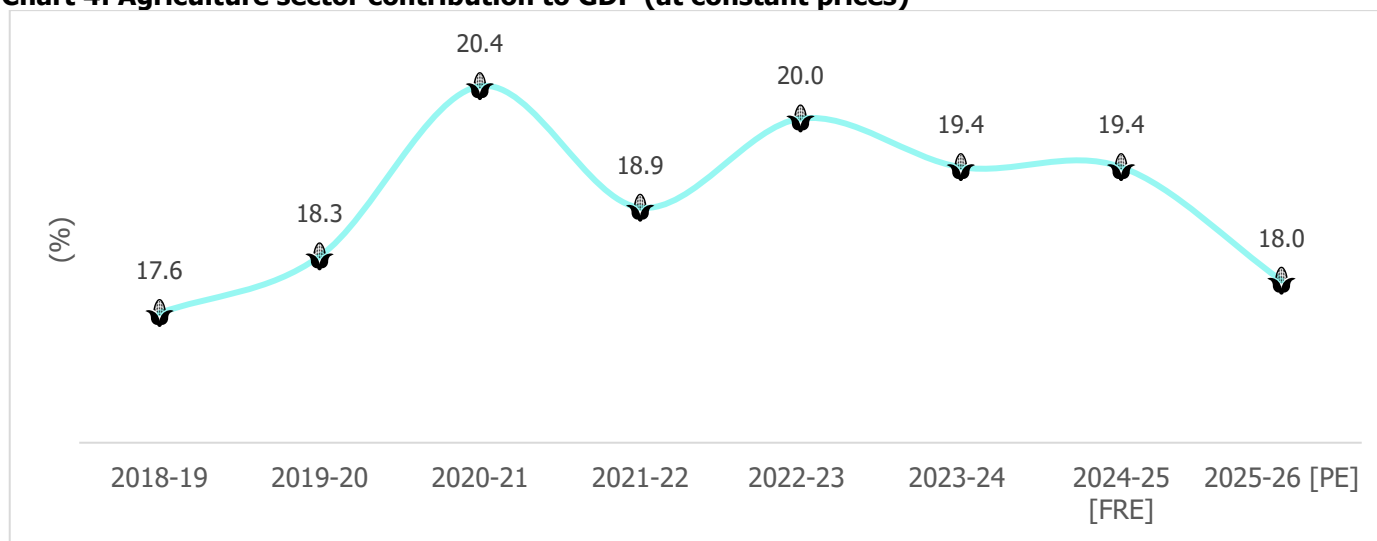
The India Meteorological Department (IMD) expects a below-normal monsoon, with rains in most parts of the country, except in some areas of the northeast, southern peninsula, and northwest India, which is likely to affect inflation levels.

Despite elevated global crude oil prices, India initially kept retail petrol and diesel prices stable by reducing central excise duty and absorbing part of the cost through state-owned oil marketing companies. Subsequently, retail fuel prices were increased in a phased manner to partly pass on the higher input costs to consumers. The rise in energy prices and weather disturbances affecting food prices are upside risks to inflation.

1.2.4 Contribution of Agriculture sector to GDP

Agriculture has been a cornerstone of India's economy since independence, contributing significantly to GDP and supporting the workforce. The Agriculture and Allied Sector continues to remain a significant contributor to India's overall economic activity, accounting for 18.0% of total GVA in FY26. Its share increased from 17.6% in FY19 to 20.4% in FY21, reflecting the sector's relative resilience during the pandemic period. While the contribution moderated thereafter, it remained broadly around 19–20% during FY22–FY25, before declining to 18.0% in FY26. The sustained contribution of agriculture to the overall economy, despite structural shifts towards manufacturing and services, highlights the sector's importance to rural incomes, employment and consumption, and provides a strong underlying base for the adoption of farm mechanisation and agri implements.

Chart 4: Agriculture sector contribution to GDP (at constant prices)



Source: MOSPI; Note: FRE – First Revised Estimates, FE– Final Estimate, SAE- Second Advance Estimates

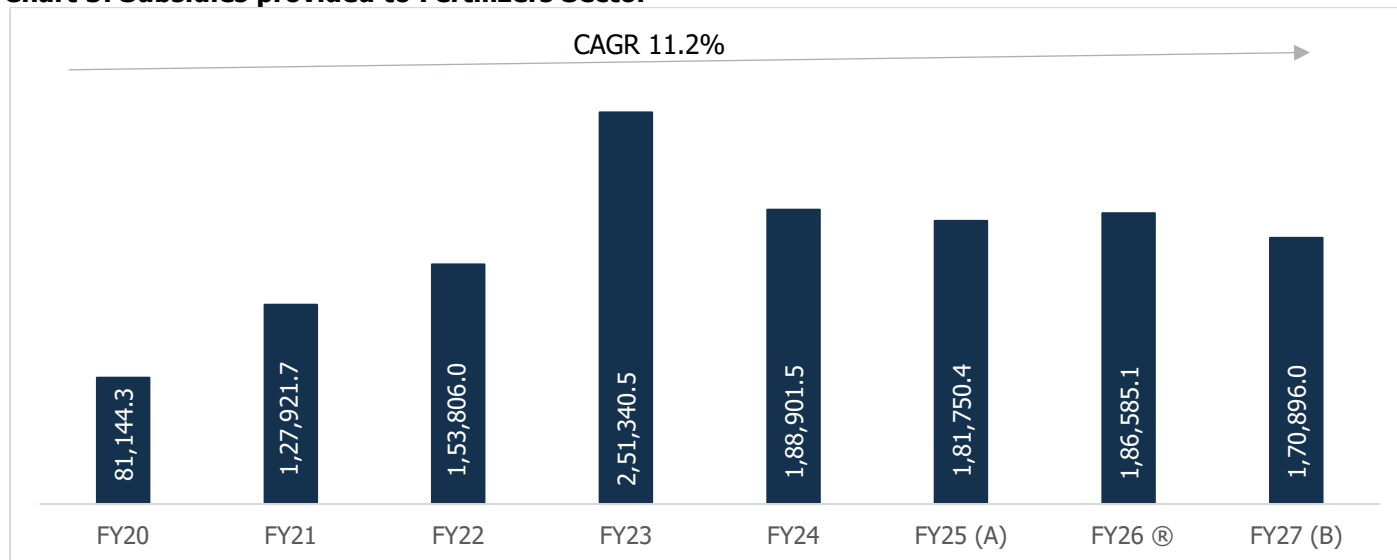
1.2.5 Subsidies for Fertilizers

Fertilisers are essential for boosting crop productivity, ensuring food security and supporting the livelihoods of millions of farmers in India. As India is highly dependent on imports to meet its fertiliser and raw material needs, the domestic prices, in turn, are influenced by the international prices. Thus, to avoid the burden of price hikes falling on farmers and inversely affecting agricultural produce, the government provides subsidies on fertilisers to farmers through manufacturers. Fertiliser subsidy levels remain elevated in FY25-26, with seasonal allocations such as Rs 37,952 crore for Rabi 2025–26 and Rs 41,533 crore for Kharif 2026, along with continued targeted support under the Nutrient-Based Subsidy scheme (GOI).

For FY27, the upfront subsidy budget decreased by ~8% to Rs 1,70,896.0 crores as compared to Rs 1,86,585.1 crores in FY26. This will be adequate for the year on account of reduced prices of raw materials and natural gas. It will also aid the urea and complex fertiliser manufacturers to effectively manage their working capital requirements.

The increase in fertiliser subsidy was driven by elevated global prices as well as geopolitical disruptions, including the Russia–Ukraine conflict and the ongoing West Asia tensions, which have impacted supply chains, increased energy costs, and created logistical challenges.

Chart 5: Subsidies provided to Fertilizers Sector



Source: Union Budget FY26 document; A: Actual, R: Revised, B: Budgeted

1.3 Concluding Remarks

India's average crop yield is lower than the global average due to outdated practices, poor irrigation, and climate challenges. However, with technological advancements, better infrastructure, and improved practices, India has the potential to boost production, increase yields, and become more competitive in the global agricultural market.

Table 4: Yield per hectare of different crops in kg (2025-26)

Crops	India's yield per hectare (FY26)	Countries with maximum yield per hectare	Average world yield
Paddy (Rice)	2,915	Tajikistan- 13,385 Australia- 11,914 Uruguay- 9,351	4,210
Wheat	3,591	New Zealand- 10,014 Ireland- 8,139 Germany- 7,084	3,414
Maize	3,824	UAE- 22,474 Qatar- 19,241 Kuwait- 16,872	4,831
Pulses	957	Russia- 1,911 Ethopia- 1,902 China- 1,831	952

Sugarcane	84,987	Colombia- 98,291 China- 94,585 India- 83,566	72,239
Groundnut	2,228	U.S.- 4,111 Israel- 5,625 China- 4,039 Argentina- 3,154	1,669

Source: FAOSTAT Note: This is the latest data available.

India, with 14% of the global crop-protection market, is a key player in boosting agricultural productivity. Demand for crop-protection chemicals like pesticide is projected to grow from 70,403 tonnes in FY26 to 89,170 tonnes by FY36. The industry is adopting sustainable practices and innovations, driving food security and reducing agriculture's ecological impact, solidifying India's leadership in crop protection.

Global economic growth faces headwinds from geopolitical tensions, volatile commodity prices, high interest rates, inflation, financial market volatility, climate change, and rising public debt. However, India's economy remains relatively strong, with an IMF forecast of 6.6% GDP growth in CY25 (FY26 according to the fiscal year), compared to the global projection of 3.2%. Key drivers include strong domestic demand, government capital expenditure and moderate inflation.

Public investment is expected to grow, with the government allocating Rs. 11.21 lakh crores for FY26. Private sector investment is also improving, reflected in new projects and capital goods imports. High-frequency indicators suggest the agriculture sector in Q3FY25 grew by 5.6%. Agricultural growth is supported by healthy kharif crop production, higher reservoir levels and better rabi sowing. Additionally, improvement in rural demand owing to healthy sowing, improving reservoir levels, and progress in south-west monsoon along with government's thrust on capex and other policy support will aid the investment cycle in gaining further traction.

India's favourable age dependency ratio and large working-age population provide a structural advantage, supporting productivity and long-term economic growth. With a significant share of the population residing in rural areas and dependent on agriculture, demographic trends along with rising farmer awareness and gradual modernisation are expected to sustain demand for productivity-enhancing Agri-inputs, including crop-protection chemicals.

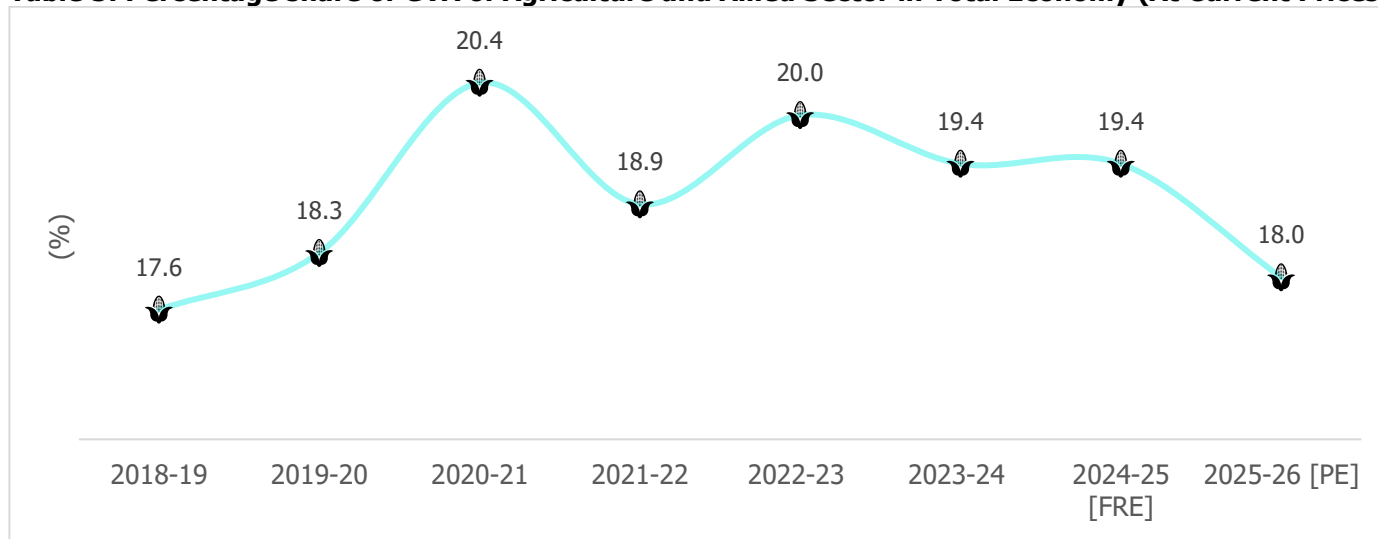
The recent 56th meeting of the Goods and Services Tax (GST) Council announced some major changes in the existing GST structure. The focus is majorly on simplifying it to a two-tiered GST tax structure of 5% and 18%, phasing out the currently existing 12% and 28% slabs. There is also a de-merit tax rate for luxury and 'sin' goods at a 40% tax slab. These changes are typically aimed at increasing the disposable income and in turn boosting consumption, as well as promoting the ease of doing business. The GST rationalization is expected to be a positive step towards economic growth, stimulating private consumption and ease inflationary pressures. The recent revisions in income tax rates, coupled with the reduction in GST, are expected to result in savings of over Rs 2.5 lakh crore, which is likely further boost the consumption.

2 Significance of Agriculture in Indian Economy

2.1 Overview of Indian Agriculture Market

Agriculture is the primary source of livelihood for about 58% of India's population. As a result, the share of agriculture and allied sectors to the total economy's Gross Value Added (GVA) has been significant and has increased over the years as shown in the table.

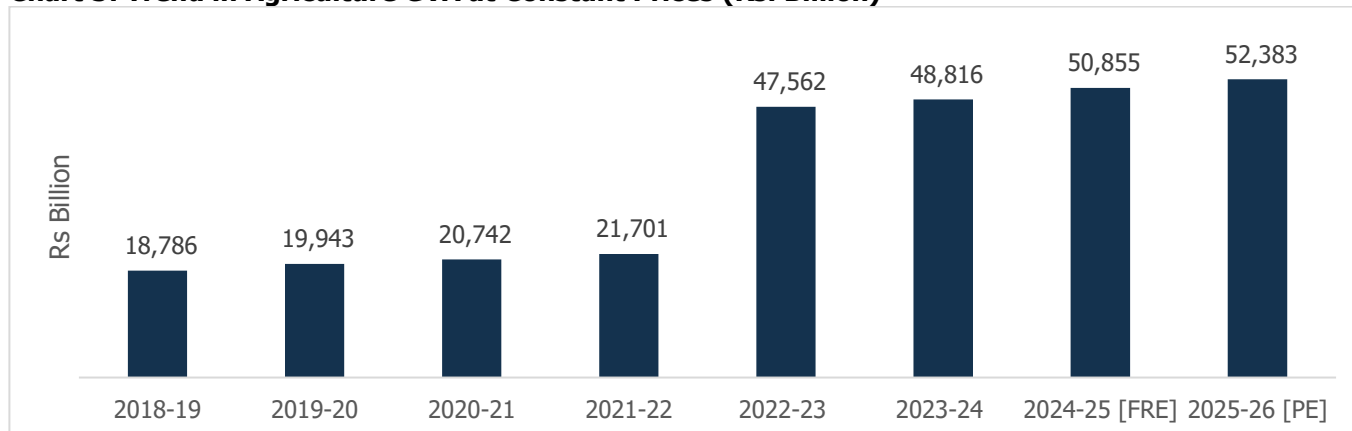
Table 5: Percentage share of GVA of Agriculture and Allied Sector in Total Economy (At Current Prices)



Source: PIB Release, MOSPI; FRE: First Revised Estimates, PE: Provisional Estimates

The Agriculture and Allied Sector continues to remain a significant contributor to India's overall economic activity, accounting for 18.0% of total GVA in FY26. Its share increased from 17.6% in FY19 to 20.4% in FY21, reflecting the sector's relative resilience during the pandemic period. While the contribution moderated thereafter, it remained broadly around 19–20% during FY22–FY25, before declining to 18.0% in FY26. The sustained contribution of agriculture to the overall economy, despite structural shifts towards manufacturing and services, highlights the sector's importance to rural incomes, employment and consumption, and provides a strong underlying base for the adoption of farm mechanisation and agri implements.

Chart 5: Trend in Agriculture GVA at Constant Prices (Rs. Billion)



Source: RBI, MOSPI

The growth in agriculture GVA has been supported by various measures on credit, market reforms, and food processing. Moreover, several measures are in place to raise productivity and improve the marketing of agricultural produce. Accordingly, the government has a large food management programme in place with significant financial implications in terms of food subsidies.

Agriculture and Allied Sector GVA at constant prices have demonstrated a steady upward trajectory, increasing from Rs. 18,786 billion in FY19 to Rs. 52,383 billion in FY26 (PE). The sector recorded consistent growth through FY22, with GVA reaching Rs. 21,701 billion, followed by a significant increase in FY23 and continued expansion thereafter. GVA rose from Rs. 47,562 billion in FY23 to Rs. 52,383 billion in FY26, indicating sustained real growth in agricultural and allied economic activity. The expansion in the sector's real GVA reflects the increasing scale and economic importance of agricultural production and allied activities, supporting the long-term requirement for mechanisation, productivity enhancement and greater adoption of agricultural implements.

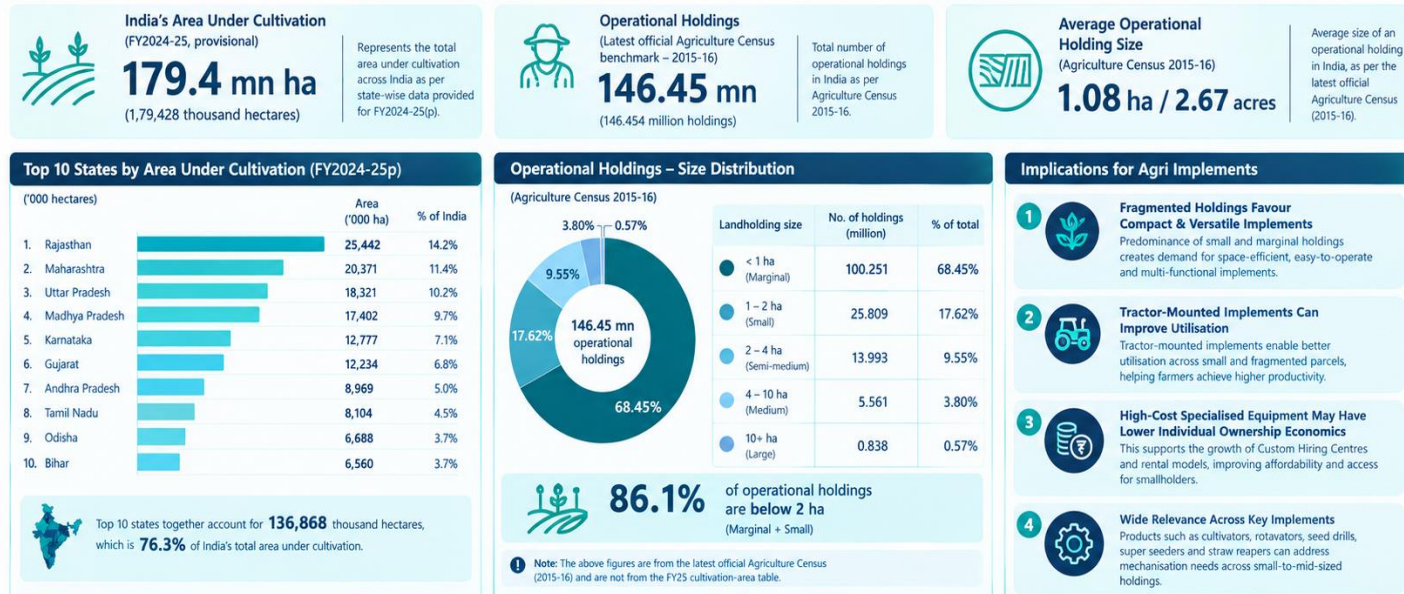
2.2 Landholding Structure and Implications for Agricultural Mechanisation

India's agricultural landscape is characterised by a highly fragmented landholding structure, which has important implications for the adoption of agricultural machinery and implements. The latest official Agriculture Census (2015-16) reported 146.45 million operational holdings, with an average operational holding size of 1.08 hectares (approximately 2.67 acres). Further, marginal holdings of less than 1 hectare accounted for 68.5% of total operational holdings, while small holdings of 1–2 hectares accounted for another 17.6%. Consequently, approximately 86.1% of operational holdings were below 2 hectares, highlighting the predominance of small and fragmented farms in the country.

At the same time, India continues to have a substantial area under cultivation, estimated at approximately 179.4 million hectares in FY2024-25 (p). Rajasthan, Maharashtra, Uttar Pradesh and Madhya Pradesh were among the largest states in terms of cultivated area, together accounting for approximately 45% of the total area under cultivation, while the top 10 states accounted for around 76%. This concentration of cultivated area across major agricultural states provides a significant addressable market for agricultural implements.

The fragmented nature of Indian agriculture creates a strong requirement for compact, versatile and cost-efficient farm implements that can be effectively deployed on relatively small landholdings. Unlike large, specialised machinery that may have limited utilisation on small farms, tractor-mounted and multi-purpose implements such as cultivators, rotavators, seed drills, super seeders and straw reapers can offer greater flexibility and improve farm-level productivity. The relatively high capital cost of specialised equipment also creates an opportunity for Custom Hiring Centres (CHCs), rental models and shared-equipment arrangements, enabling small and marginal farmers to access mechanisation without bearing the full cost of ownership.

The combination of a large cultivated area, fragmented landholdings, increasing labour costs and the government's continued focus on farm mechanisation and crop-residue management is therefore expected to support sustained demand for agricultural implements. For manufacturers, this market structure favours products that offer affordability, ease of operation, compatibility with commonly used tractors and higher utilisation across multiple farm activities, while also creating opportunities to expand through regional dealer networks, subsidy-linked sales and institutional/custom-hiring channels.

Chart 6: Area Under Cultivation in India

2.3 India holds a critical position in the world of agriculture

India holds critical position in world agriculture, however, yield per hectare remains low

Apart from food grain production, India also produces oilseeds, fruits and vegetables and commercial crops. To understand the position of India better in world agriculture, the following table can be referred.

Table 6: India's position in world agriculture (2025-26)

Production	India	World	India's position		
			% Share	India's Rank	Next to
1. Crop (million tonnes)					
A. Total cereals	332.05	3,017	11.01	Third	China, USA
Wheat	117.95	843.35	13.99	Third	European Union, China
Rice (Paddy)	150.18	545.51	27.53	First	-
Maize	43.41	1234.1	3.52	Sixth	USA, China, Brazil, Argentina, European Union
B. Total Pulses	25.68	97.07*	26.46	First	-
C. Oilseeds					
Groundnut (with shell)	10.13	55.05	18.41	Second	China
Rapeseed	3.45	26.69	12.92	Fourth	Canada, Germany, China
D. Commercial Crops					
Sugarcane	454.61	1,939.78*	23.44	Second	Brazil
Tea	6.15*	32.72*	18.79	Second	China

Production	India	World	India's position		
			% Share	India's Rank	Next to
Coffee (green)	0.38	10.73	3.54	Seventh	Brazil, Vietnam, Colombia Indonesia, Ethiopia, Uganda
Jute	1.53	3.70*	41.35	Second	Bangladesh
Tobacco Unmanufactured	1.04	6.04*	17.22	Second	China
2. Fruits & vegetables (million tonnes)					
Vegetables Primary	217.80	1,182.10*	18.42	Second	China
Fruits Primary	117.65	953.82*	12.34	Second	China
Potato	58.57	390.42*	15.00	Second	China
Onion (Dry)	31.69	108.26*	29.27	First	-

Source: FAOSTAT, Agriculture Statistics at Glance 2025, CareEdge Research; *2024 data

As per the above table, India holds one of the top 3 positions for most of the food items mentioned except for coffee, this shows significance of India in world agriculture. Even while India lead agriculture production in various food items, the yield per hectare of these crops in India is lower than several other countries in the world.

2.4 Stakeholders involved in agriculture

As discussed above, agriculture is very crucial for the Indian economy and involves various stakeholders that supports the operations of agriculture in the country. These stakeholders primarily include farmers, labourers, dealers and Government.

Farmers: Farmers play a pivotal role in agriculture as they are producers of various food grains, fruits, vegetables and various crops. The crops produced by farmers in India are distributed in two marketing seasons – kharif marketing season and rabi marketing season. To make agricultural produce available to the population or consumers, farmers engage labourers and dealers in their operations.

As per the Department of Agriculture, Cooperation & Farmers' Welfare, from the launch of the PM-KISAN scheme in February 2019 up to the 16th instalment, over 11 crore farmers have received about Rs 3.04 lakh crore in direct benefit transfers. With the release of the 17th instalment in June 2024, the cumulative disbursement under PM-KISAN has increased to over Rs 3.24 lakh crore.

Labour: Labour forms a critical input in Indian agriculture as functions like sowing, ploughing, harvesting, levelling, weeding, sprinkling, spraying etc. are done by labour. Even with the advancement of technology, many operations like weeding, irrigation, seed bed production, harvesting etc. require the hand of labour. However, a shift in labour towards other opportunities has been affecting the quantum of labour in the agriculture industry. Thus, to avoid loss of agricultural production, there is an impetus towards farm mechanization, usage of technology, application of fertilizers and pesticides in the agriculture industry. This, in turn, is aiding the momentum of agricultural equipment, implements, tractors, drones, crop nutrition and crop protection products in Indian agriculture.

Dealers: Another important stakeholder in agriculture is dealers that provide agricultural inputs like fertilizers, pesticides, micronutrients, as well as equipment, tractors, and other agricultural machinery, to the farmers. They serve as a vital and credible source of information to the farmers. They are accessible and function as a link between the farmers and suppliers of agricultural inputs and farm machinery manufacturers. Besides offering credit facilities to farmers, the dealers also provide agricultural education and technological information to the farmers, including guidance

on the use, maintenance, and adoption of modern farm equipment and mechanization technologies. All these factors make dealers a very significant part of the agriculture industry.

The dealer and distributor network typically operates through a structured, multi-tier system to ensure efficient reach and service delivery across regions. At the top level, manufacturers appoint authorized distributors who are responsible for specific territories or states. These distributors manage inventory procurement, warehousing, logistics, and supply chain coordination. Under them, authorized dealers and sub-dealers operate at district and local levels, directly engaging with farmers and retail customers. This extensive network ensures product availability even in remote rural areas, facilitates timely after-sales service, spare parts support, warranty management, and field-level technical assistance. In many cases, dealers also coordinate with financial institutions and government agencies to support subsidy schemes and credit-linked purchases. A strong dealer and distributor network enhances market penetration, customer trust, efficient feedback flow to manufacturers, and overall supply chain stability within the agricultural ecosystem.

Government: In addition to the above stakeholders, Government serves as an important contributor in agricultural operations. To augment agriculture facilities in India, the government has been taking various initiatives. Minimum Support Price (MSP), agricultural marketing, food management, food processing sector, and natural farming are some of the steps taken by the Government for betterment of farmers in the country as per the Economic Survey 2021-22.

The agriculture sector remained a bright spot even during the pandemic-hit FY21, recording a growth of 3.3%, while industry and services sectors contracted by 3.3% and 7.8%, respectively, on a year-on-year basis. Favorable monsoons, steady rural demand, and uninterrupted farm operations during lockdowns positioned agriculture as the key stabilizing pillar of the Indian economy.

Building on this resilience, the sector has continued to perform strongly through FY24–25, supported by record foodgrain production, favorable rainfall, and targeted policy measures. Real GVA in agriculture and allied activities is estimated to have grown by around 4.6% in FY25, driven by improved irrigation coverage, enhanced access to credit, and digital and infrastructural reforms under government schemes such as PM-KISAN and the Agriculture Infrastructure Fund.

Higher Minimum Support Prices (MSP) for kharif and rabi crops and the direct benefit transfer (DBT) of MSP payments have further strengthened farmers' liquidity and credit capacity, spurring investment in modern inputs and farm mechanization.

2.5 Monsoon in India

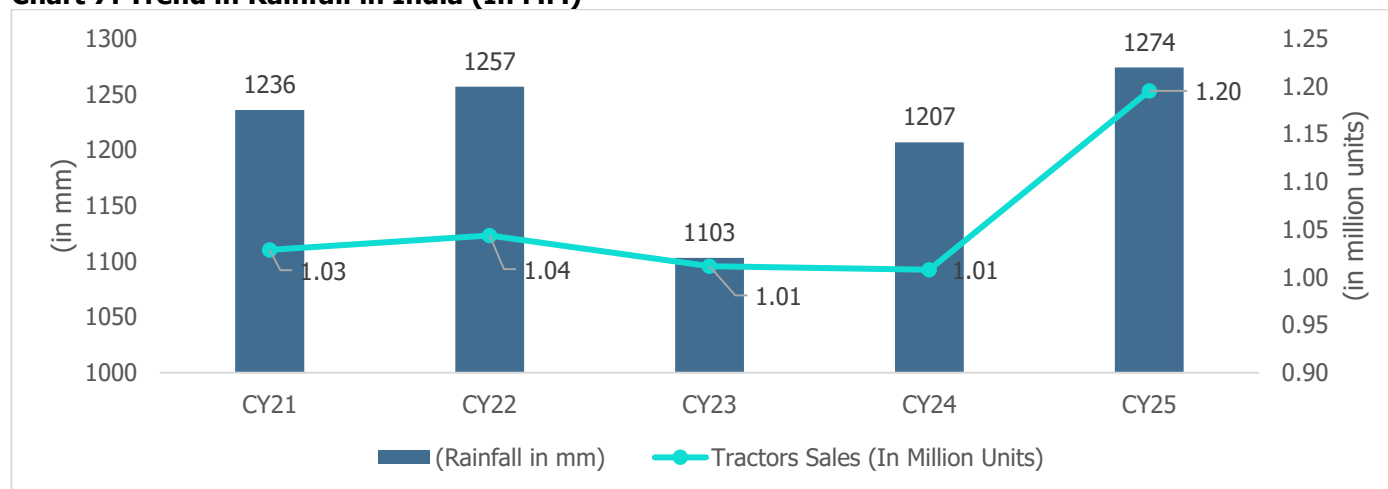
India's rainfall over recent years has exhibited moderate volatility, largely influenced by increasing climate variability and extreme weather events. This has led to periodic stress on agricultural output, affecting crop yields and farm incomes. The monsoon remains critical to India's agrarian economy, contributing nearly 70% of annual rainfall and directly influencing the production of key crops such as rice, wheat, sugarcane, pulses, oilseeds, and cotton.

During 2021–2025, annual rainfall has fluctuated within a relatively narrow band, ranging from 1,103 mm in 2023 to 1,274 mm in 2025. Rainfall remained stable in 2021 and 2022 at 1,236 mm and 1,257 mm, respectively, reflecting normal monsoon conditions. However, 2023 witnessed a sharp decline in precipitation to 1,103 mm due to uneven monsoon distribution and the emergence of El Niño conditions, which adversely impacted crop sowing and productivity in several regions.

Rainfall recovered in 2024 to 1,207 mm, supported by neutral oceanic conditions and improved monsoon progression, while 2025 has recorded higher rainfall of 1,274 mm, indicating further normalization. The recovery in rainfall is likely to support reservoir levels, improve soil moisture availability, and enable higher cropping intensity.

Historically, good monsoon years have acted as a demand catalyst for tractors and agricultural equipment. Higher rainfall improves soil moisture and crop prospects, enabling farmers to invest in mechanization. Tractor and equipment sales typically dip in years with deficient rainfall and rebound in years with above-average rainfall, reflecting the close link between monsoon performance and agricultural mechanization demand.

Chart 7: Trend in Rainfall in India (In MM)



Source: Rainfall Statistics, IMD, CareEdge Research, P: Projected; Tractor and Mechanization Association

While this consistent rainfall supports kharif crop sowing and water reservoir replenishment, it also brings warm and humid conditions conducive to the proliferation of pests and crop diseases. This environmental backdrop is expected to increase demand for agrochemicals and crop protection solutions. As a result, segments such as pesticides, fungicides, and herbicides are likely to see a boost, further promoting growth in the agriculture input and crop protection industry.

2.6 Soil fertility status (state wise distribution) in India

- Soil health and quality are a matter of great concern for the Government of India. Soil Health Card (SHC) scheme is a flagship programme launched in February 2015 under which there are uniform norms which are followed across different states for analysis of the soil and to diagnose fertility-related constraints and then make site-specific fertilizer recommendations accordingly.
- There were two cycles of this programme conducted namely, Cycle-I during 2015-17 and Cycle-II during 2017-19. And during the financial year 2019-20, Model Villages Programme has been taken up under Soil Health Card (SHC) Scheme on a pilot basis.
- This programme included adopting one village per block for landholding-based soil sampling, testing and distribution of soil health cards and then conducting SHC based demonstrations in each model village to scale awareness amongst the farmers across India.
- In the Model Village Programme, with farmers' participation, sample collection has been taken up at individual farm holding instead of sample collection at grids. The scheme is managed by Integrated Nutrient Management (INM) Division in the Ministry of Agriculture and Farmers Welfare, Government of India. Under the SHC scheme, soil health condition is assessed with respect to twelve important soil parameters.
 - Nitrogen (N), Phosphorous (P), Potassium (K) – primary macro-nutrients
 - Sulphur (S) – secondary macro-nutrient

- Zinc (Zn), Iron (Fe), Copper (Cu), Manganese (Mn), Boron (B) – micro-nutrients
- Electrical Conductivity (EC), Organic Carbon (OC), pH – physical parameters
- As per the norms provided in the scheme's operational guideline, the soil samples collected from different locations are then analysed in the soil testing labs. The authorities provide a report to the farmers once in 3 years after observing the soil regularly.
- This examination of the farmer's soil helps in deciding the type of crops to be cultivated for more income generation and gives the remedial measures. To enable comparison of level of soil fertility of one area with other, it is desirable to have single value for each nutrient, so Nutrient index (N.I) value is one such measure of nutrient supplying capacity of soil to plants. Nutrient Index is compiled using the assessment of soil fertility classified in three classes namely, low, medium and high.
- The nutrient index can then be calculated based on the information collected on the level of each nutrient using the following formula.

$$\text{Nutrient Index (N.I)} = (N_L \times 1 + N_M \times 2 + N_H \times 3) / N_T$$

where N_L : indicates the number of samples falling in the low class of nutrient status

N_M : indicates the number of samples falling in medium class of nutrient status

N_H : indicates the number of samples falling in the high class of nutrient status

N_T : indicates the total number of samples analysed in each area ($N_L + N_M + N_H$)

Interpretation of the different values of soil nutrient index is given in the table below:

Chart 8: Nutrient Index Interpretation

Nutrient Index	Value	Interpretation
Low	<1.67	Low fertility status of the area
Medium	1.67-2.33	Medium fertility status of the area
High	>2.33	High fertility status of the area

Chart 9: The state-wise distribution of soil nutrient indices for 2024 is as follows:

State/UT	Nitrogen	Phosphorous	Potassium	Copper	Boron	Sulphur	Iron	Zinc	Manganese	Organic Carbon
Andhra Pradesh	1.24	2.02	2.71	1.97	1.92	1.85	1.71	1.66	1.90	1.41

Arunachal Pradesh	2.12	1.95	2.41	1.96	1.88	1.70	1.92	1.80	1.69	1.85
Assam	2.24	2.05	2.20	2.00	1.00	2.00	2.00	1.93	1.78	1.85
Bihar	1.40	2.19	2.64	1.98	1.97	1.79	1.93	1.75	1.93	1.68
Chhattisgarh	1.23	1.76	2.69	1.96	1.97	1.62	1.89	1.49	1.97	1.49
Goa	2.01	1.73	2.44	1.98	1.80	1.67	1.98	1.74	1.96	1.85
Gujarat	1.24	2.37	2.82	1.94	1.83	1.79	1.71	1.64	1.91	1.67
Haryana	1.08	1.89	2.28	1.93	1.62	1.90	1.72	1.79	1.74	1.23
Himachal Pradesh	1.49	1.94	2.49	1.99	2.00	1.93	1.95	1.94	1.86	1.92
Jharkhand	1.40	1.99	2.22	1.97	1.95	1.86	1.95	1.80	1.91	1.63
Karnataka	1.43	2.14	2.52	1.96	1.86	1.70	1.49	1.44	1.85	1.52
Madhya Pradesh	1.27	1.94	2.65	1.91	1.95	1.81	1.74	1.51	1.92	1.73
Maharashtra	1.20	1.91	2.80	1.96	1.81	1.48	1.41	1.48	1.87	1.46
Meghalaya	1.72	1.94	2.15	1.50	1.74	1.64	1.53	1.41	1.56	1.99
Mizoram	1.44	1.75	1.87	2.00	2.00	1.01	1.01	2.00	1.00	1.72
Nagaland	1.70	1.90	2.34	1.93	1.93	1.52	1.83	1.83	1.75	1.86
Odisha	1.39	1.67	2.39	1.97	1.79	1.86	1.96	1.59	1.98	1.57
Punjab	1.14	1.87	1.66	1.99	2.00	1.84	1.83	1.88	1.43	1.63
Rajasthan	1.00	2.03	2.79	1.96	1.98	1.92	1.49	1.42	1.92	1.18
Sikkim	1.68	2.12	2.48	1.93	1.71	1.84	1.89	1.96	1.81	1.83
Tamil Nadu	1.01	1.90	2.61	1.97	1.89	1.66	1.61	1.55	1.73	1.12
Tripura	1.30	2.01	2.11	1.96	2.00	1.95	2.00	1.48	1.99	1.68
Uttarakhand	-	1.90	2.32	1.97	1.97	1.79	1.91	1.90	1.89	1.79
Uttar Pradesh	1.02	1.80	2.37	1.96	1.97	1.65	1.73	1.65	1.87	1.13
West Bengal	1.71	2.23	2.44	1.97	1.87	1.62	1.99	1.76	1.87	1.73
Andaman & Nicobar	1.27	1.28	1.38	1.93	2.00	1.01	2.00	1.79	2.00	1.03
Jammu And Kashmir	1.89	2.06	2.52	1.90	1.94	1.79	1.62	1.69	1.71	1.81
Puducherry	1.01	1.82	1.90	1.99	-	-	1.92	1.95	1.97	-

Source: EnviStats India 2024 (MOSPI); This is the latest available data

(Note: This '-' denotes data is not available for the respective states)

Some inferences that can be made from these indices are:

- Nitrogen fertility status has been low, except in the case of Meghalaya, Jammu & Kashmir, Goa, Assam, Arunachal Pradesh, Nagaland, Sikkim, West Bengal.
- Potassium fertility has been high in most of the states
- Phosphorous fertility status has been medium in majority of the states
- As we can see above, the demand for Nitrogen and Phosphorous fertilizers will remain stable for medium to long term as all the three nutrients is available in low to medium quantity only.

Bhu-Parikshak

To determine the nutrients, present in the soil, a rapid soil testing device based on IoT technology is used called Bhu-Parikshak. It helps in detecting the deficiency of nutrients in soil and then usage of correct fertilizers to increase efficiency. These devices are portable in nature, provide results instantly on the smartphone and are highly affordable with one of the highest testing capacities. It is a very low power consuming device having battery backup which can analyse 120 soil samples in a single charge. Furthermore, the predicted life of the device is 5 years and can analyse 1 million samples.

Bhu-parikshak works using the principle of near-infrared spectroscopy technology and can analyse soil in real-time. It takes 90 seconds to analyse the health of soil and generates a complete report on soil health, through an embedded mobile application. This mobile application does not just generate a report but keeps the history of previous scans and synchronizes data with the cloud. The device is said to be more than 80 percent accurate in its analyses. Those who have Bhu-parikshak can now get the recommended doses of fertilizers without going to a laboratory, thus making soil health management easy.

The analysis parameters are Available Nitrogen (N), Organic Carbon (OC), Available Phosphorous (P), Available Potassium (K), Cation Exchange Capacity (CEC) and clay contents. With only 5 grams of dry soil sample, the above-mentioned soil parameters can be analysed. To fetch fair market price for customers and providing market linkages, companies collaborate with various Farmer Producer Organisations (FPOs) and Farmer Producer Companies (FPCs). This device is also an effective tool to decrease the expenses and increase the efficiency of fertilizers.

Some of the advantages of the device are:

- Instant soil pictogram of the mentioned parameters
- Mapped field data availability in cloud storage for soil health and nutrient demand analysis
- Recommendation for precise nutrient requirements

A lot of soil testing devices are not portable and heavy but some companies with the help of new technologies are now developing portable, light-weight devices that also provide results with a minute.

2.7 Top states- Major Crops Production (2024-25)

The major crops produced in top 3 states in India in 2024-25 are:

Food Grains:

Crop	State	Production (Lakh Tonnes)
Rice	Uttar Pradesh	207.6
	Telangana	174.5
	West Bengal	160.2
Wheat	Uttar Pradesh	356.5
	Madhya Pradesh	245.1
	Punjab	179.9
Maize	Madhya Pradesh	66.4
	Karnataka	61.9
	Bihar	54.7
Total Nutri/Coarse Cereals	Rajasthan	94.5
	Karnataka	85.9

Crop	State	Production (Lakh Tonnes)
	Madhya Pradesh	77.8
Gram	Maharashtra	29.6
	Madhya Pradesh	21.1
	Rajasthan	20.1
	Maharashtra	14.2
Tur	Karnataka	10.0
	Jharkhand	2.5
	Madhya Pradesh	52.4
Total Pulses	Maharashtra	50.4
	Rajasthan	39.3
	Uttar Pradesh	638.5
Total Foodgrains	Madhya Pradesh	466.3
	Punjab	327.8

Oilseeds:

Crop	State	Production (Lakh Tonnes)
Groundnut	Gujarat	52.2
	Rajasthan	21.4
	Madhya Pradesh	15.5
Rapeseed & Mustard	Rajasthan	54.2
	Uttar Pradesh	24.1
	Haryana	14.3
Soyabean	Maharashtra	73.7
	Madhya Pradesh	53.8
	Rajasthan	11.8
Sunflower	Karnataka	1.1
	Haryana	0.5
	Odisha	0.3
Total Oilseeds	Rajasthan	92.0
	Madhya Pradesh	82.5
	Maharashtra	77.9
Sugarcane	Uttar Pradesh	2208.0
	Maharashtra	1099.7
	Karnataka	480.6
Cotton	Maharashtra	73.7
	Gujarat	71.6
	Telangana	57.9
Jute & Mesta	West Bengal	70.3
	Bihar	8.5
	Assam	7.3

Source: India Budget, Economic Survey

Note: 1. Cotton Production in Bales, 1Bale=170 Kg

2. Jute & Mesta Production in Bales, 1Bale=180 Kg

2.8 Effects of Climate Change on the Agriculture Industry

Climate change has emerged as a structural challenge for the agriculture industry, increasing uncertainty around crop production, farm incomes, and input demand. Rising temperatures, changing rainfall patterns, and a higher frequency of extreme weather events are altering traditional farming cycles and impacting both crop yields and cost structures.

One of the most visible impacts is greater variability in monsoon rainfall, with longer dry spells, intense short-duration rainfall events, and delayed monsoon onset becoming more frequent. This disrupts sowing schedules, affects soil moisture availability, and increases the risk of crop losses, particularly in rain-fed regions that account for a large share of India's cultivated area.

India's rainfall over recent years has exhibited moderate volatility, influenced by climate variability and extreme weather events, with annual rainfall between 1,103 mm in 2023 and a projected 1,287 mm in 2025. Years with good monsoon rainfall support higher soil moisture, improved reservoir levels, and enable higher cropping intensity, whereas deficient rainfall years create stress on sowing and productivity.

Rising average temperatures and heat stress are adversely affecting crop productivity, especially for temperature-sensitive crops such as wheat, rice, and horticultural produce. Higher temperatures accelerate evapotranspiration, increase irrigation requirements, and reduce water-use efficiency, thereby raising cultivation costs for farmers.

Historically, favorable monsoon rainfall and healthy soil conditions have supported higher crop productivity, enabling farmers to invest in mechanization and agricultural inputs. Conversely, years with deficient rainfall or poor soil health tend to constrain farm investment and slow adoption of equipment, reflecting the close link between climate, soil, and demand patterns in the agriculture industry.

Climate change has also led to an increase in pest and disease incidence, as warmer and more humid conditions create favorable environments for pests and pathogens. This results in higher usage of crop protection chemicals and greater yield volatility, particularly in oilseeds, pulses, and vegetables.

Additionally, the frequency of extreme events such as droughts, floods, and cyclones has increased, causing localized but severe damage to standing crops, farm infrastructure, and supply chains. These events not only affect output in the immediate season but also strain farm balance sheets and slow recovery in subsequent cycles.

In response, farmers are gradually adopting climate-adaptive practices, including crop diversification, short-duration and stress-tolerant varieties, improved irrigation systems, and higher mechanization. While these adaptations support long-term resilience, they also raise capital and operating expenditure in the near term, reshaping demand patterns across agricultural inputs and equipment.

2.9 Yield per hectare of different crops (2025-26)

India's crop productivity per hectare remains relatively low compared to countries that achieve the highest yields. Moreover, for major crops such as wheat and maize, the yield per hectare in India is also below the global average.

Table 7: Yield per hectare of different crops in kg

Crops	India's yield per hectare
Foodgrains	2,323

Cereals	3,071
Nutri / Coarse Cereals	2,273
Pulses	957
Rice	2,915
Wheat	3,591
Jowar	1,228
Bajra	1,558
Maize	3,824
Tur	805
Gram	1,295
Oilseeds	1,358
Groundnut	2,228
Rapeseed and Mustard	1,460
Sugarcane (tonnes/hectare.)	84,987
Cotton	428
Jute and Mesta	2,793

Source: Unified Portal for Agricultural Statistics

Note: Foodgrains includes cereals and pulses; Cereals includes rice and wheat and nutri coarse cereals; Nutri/Coarse Cereals includes maize, jowar, ragi, bajra, small millets and barley; Pulses includes tur, urad, moong, gram, lentils and other pulses; Oilseeds includes groundnut, rapeseed & mustard, sesamum, linseed, castorseed, nigerseed, safflower, sunflower and soyabean.

Some of the reasons that have been affecting the crop yield in India includes uneven and uncertain rains, inadequate irrigation facilities, low fertility of soil among others. To improve the fertility of soils, application of micronutrients becomes very important in India and thus micronutrients have a significant demand potential going ahead.

2.10 Government Initiatives for Enhancing Farmers' Income: Past and Present Landscape

The Government is working towards enhancing farmers' income through:

- Constant hike in MSPs
- Agricultural marketing
- Food management

- Food processing sector
- Natural farming
- Promotion of new technologies such as usage of drones and other soil testing devices

Constant Hike in MSPs and Income Support

In the initial phase (2016–2022), the government prioritized income stability through regular hikes in Minimum Support Prices (MSPs) and expanded procurement for cereals, pulses, and oilseeds. The introduction of PM-KISAN (2019) further provided direct income transfers of Rs 6,000 annually to small and marginal farmers, ensuring liquidity and financial inclusion.

In recent years (FY24–25), the approach has matured toward direct MSP payments through DBT, reducing delays and ensuring transparency. The continuous upward revision of MSPs often set at least 1.5 times the cost of production continues to safeguard farmers against price shocks and input inflation.

Table 8: MSPs for all Kharif crops for Marketing Season 2025-26 (Rs. /quintal)

Sr. No.	Crop	MSP 2023-24	MSP 2024-25	MSP 2025-26	Cost of production 2025-26	Increase in MSP in 2025-26 over 2024-25 (Absolute)
1	Paddy (Common)	2,183	2,300	2,369	1,579	69
2	Paddy (Grade A) ^	2,203	2,320	2,389	-	69
3	Jowar (Hybrid)	3,180	3,371	3,699	2,466	328
4	Jowar (Maldandi)^	3,225	3,421	3,749	-	328
5	Bajra	2,500	2,625	2,775	1,703	150
6	Ragi	3,846	4,290	4,886	3,257	596
7	Maize	2,090	2,225	2,400	1,508	175
8	Tur (Arhar)	7,000	7,550	8,000	5,038	450
9	Moong	8,558	8,682	8,768	5,845	86
10	Urad	6,950	7,400	7,800	5,114	400
11	Groundnut	6,377	6,783	7,263	4,842	480
12	Sunflower Seed	6,760	7,280	7,721	5,147	441
13	Soyabean (yellow)	4,600	4,892	5,328	3,552	436
14	Sesamum	8,635	9,267	9,846	6,564	579
15	Nigerseed	7,734	8,717	9,537	6,358	820
16	Cotton (Medium Staple)	6,620	7,121	7,710	5,140	589
17	Cotton (Long Staple) ^	7,020	7,521	8,110	-	589

Source: PIB release

^Cost data are not separately compiled for Paddy (Grade A), Jowar (Maldandi) and Cotton (Long staple)

Table 9: MSPs for all Rabi for Marketing Season 2025-26 (Rs. /quintal)

S.N o.	Crops	MSP 2025-26	Cost of production 2025-26	MSP 2024-25	Increase in MSP (Absolute)	Return over cost (in %)
1	Wheat	2425	1182	2275	150	105
2	Barley	1980	1239	1850	130	60
3	Gram	5650	3527	5440	210	60
4	Lentil (Masur)	6700	3537	6425	275	89
5	Rapeseed & Mustard	5950	3011	5650	300	98
6	Safflower	5940	3960	5800	140	50

Source: PIB release

- **Agricultural marketing**

India's agricultural marketing ecosystem has long been anchored by a network of 6,946 regulated wholesale markets under various State Agricultural Produce Marketing Committee (APMC) Acts. These mandis serve as key platforms for wholesale trading, helping farmers secure fair prices for their produce.

In 2016, the Government launched the National Agriculture Market (e-NAM) to promote transparent, competitive, and online trading. Under this initiative, each APMC mandi is supported with free software and a financial grant of Rs 75 lakh for hardware and infrastructure such as quality assaying, cleaning, grading, sorting, and packaging facilities. As of February 2024, 1,389 mandis across 23 States and 4 UTs have been integrated with the e-NAM platform, enabling better price discovery and inter-state trade.

Further, the Formation and Promotion of 10,000 Farmer Producer Organisations (FPOs) initiative aims to empower farmers through collective action and economies of scale. Following a cluster-based approach, the scheme aligns with the One District One Product (ODOP) model to promote specialization and improve market competitiveness. As of early 2024, nearly 2,000 FPOs have been registered, with the goal of reaching 10,000 by FY28. The establishment of the Ministry of Cooperation in 2021 has further strengthened the institutional framework for collective and cooperative farming.

- **Food Management and Food Security**

The core objectives of India's food management policy remain- procurement at remunerative prices, distribution at affordable rates, and maintenance of buffer stocks to ensure national food security and price stability. The Food Corporation of India (FCI) serves as the nodal agency for procurement, storage, and distribution under the National Food Security Act (NFSA), 2013 and other welfare schemes.

Historically, food management focused on ensuring sufficient grain supply under the Targeted Public Distribution System (TPDS). In recent years, reforms have emphasized efficiency and transparency through digitized procurement, geo-tagging of warehouses, real-time monitoring, and online beneficiary management. The government's continued commitment through schemes like the PM Garib Kalyan Anna Yojana (PMGKAY) underscores its dual focus on farmer welfare and consumer food security.

- **Food Processing and Value Addition**

Recognizing the food processing sector as a key driver of value addition, employment, and export growth, the Government of India has steadily expanded support for infrastructure development, cold chains, and micro-enterprise formalization.

The Pradhan Mantri Kisan SAMPADA Yojana initially focused on mega food parks and processing clusters, while recent policies such as the Production Linked Incentive (PLI) Scheme for Food Processing (launched in 2021) aim to attract private investment and modernize the sector.

This transition from basic processing support to market-linked, export-driven, and technology-intensive processing ecosystems is helping farmers capture a greater share of the end-value chain while reducing post-harvest losses. The sector's integration with logistics programs such as Kisan Rail and the PM Gati Shakti initiative has also improved the speed and efficiency of agri-produce movement across the country.

- **Natural and Sustainable Farming**

The promotion of natural farming represents a major shift toward sustainability. Initially piloted under the Paramparagat Krishi Vikas Yojana (PKVY), the approach has evolved into the Bharatiya Prakritik Krishi Paddhati Programme (BPKP) emphasizing low-cost, eco-friendly, and regenerative farming systems.

Under BPKP, financial assistance of Rs 12,200 per hectare for three years is provided to support cluster formation, capacity building, certification, and residue analysis. The program promotes biomass recycling, mulching, cow dung- and urine-based bio-inputs, and exclusion of chemical fertilizers, aligning with global sustainability goals and India's climate commitments.

- **Complementary Reforms and Financial Empowerment**

In addition to the above structural measures, the government continues to reinforce agricultural growth through multiple supportive interventions:

- Enhanced budgetary allocations for agriculture and allied activities.
- Expanded procurement operations at MSP to ensure stable returns for farmers.
- Direct income support through the PM-KISAN scheme, benefiting over 11 crore farmers.
- Crop insurance coverage under Pradhan Mantri Fasal Bima Yojana (PMFBY).
- Institutional credit expansion and simplification of Kisan Credit Cards (KCCs).
- Soil Health Card Scheme and Neem-Coated Urea to ensure efficient nutrient management.
- Agri Infrastructure Fund (AIF) for post-harvest and storage infrastructure.
- National Bee and Honey Mission (NBHM) for income diversification.
- Pradhan Mantri Krishi Sinchai Yojana (PMKSY) and Micro Irrigation Fund to enhance water-use efficiency.
- Farm mechanization programs and disaster relief improvements to strengthen resilience.
- Promotion of agri-startups and digital innovation through incubators and rural tech hubs.

Closing Remarks

The earlier phase of policy (FY16-FY21) was primarily support-oriented, focusing on price assurance, income protection, and food security. The ongoing phase (FY22-FY25), however, marks a transformational shift towards value creation, market integration, sustainability, and technology adoption.

By integrating digital marketing platforms (e-NAM), collective producer organizations (FPOs), and natural farming models, India's agri-policy framework is now geared toward empowering farmers as entrepreneurs rather than mere producers. This evolving strategy not only ensures income stability but also builds the foundation for sustainable and globally competitive agriculture.

3 Farm Equipment Industry

3.1 Global Farm Equipment Market

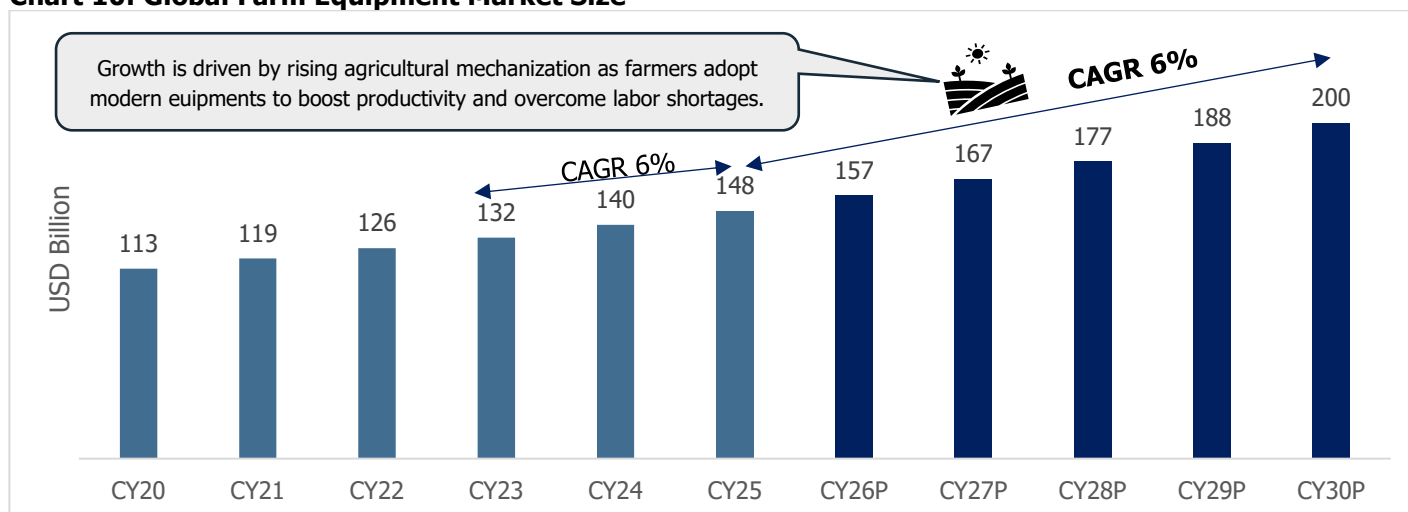
3.1.1 Industry Overview & Market Size

The global farm equipment market is witnessing steady growth, driven by rising mechanization, labour shortages, and increasing demand for higher agricultural productivity. Tractors remain the dominant segment, accounting for the majority of equipment sales, followed by harvesters, planters, and irrigation systems. Emerging technologies such as precision farming, GPS-based guidance, and autonomous machinery are reshaping the industry, improving efficiency and sustainability. The global farm equipment market was valued at USD 113 billion in CY20 and expanded to around USD 148 billion in CY25. Further, it is projected to reach approximately USD 200 billion by CY30, at a CAGR of 6%.

Growth is primarily driven by increasing mechanization in agriculture, particularly in emerging economies, as farmers shift toward modern farming techniques and equipment to enhance productivity and address labour shortages. Technological advancements, including GPS-based tractors, precision farming systems, and autonomous machinery, are further transforming the sector by improving operational efficiency and sustainability.

Additionally, government subsidies, credit support schemes, and rising rural incomes are promoting equipment adoption, especially in Asia-Pacific and Africa. Developed markets like North America and Europe are focusing on automation, data-driven agriculture, and sustainable machinery to reduce input costs and environmental impact. Going forward, the integration of digital technologies, electrification of equipment, and customized solutions for small and medium farms are expected to be key growth enablers for the global farm equipment market through 2030.

Chart 10: Global Farm Equipment Market Size



Source: Custom Market Insights (CMI), CareEdge Research

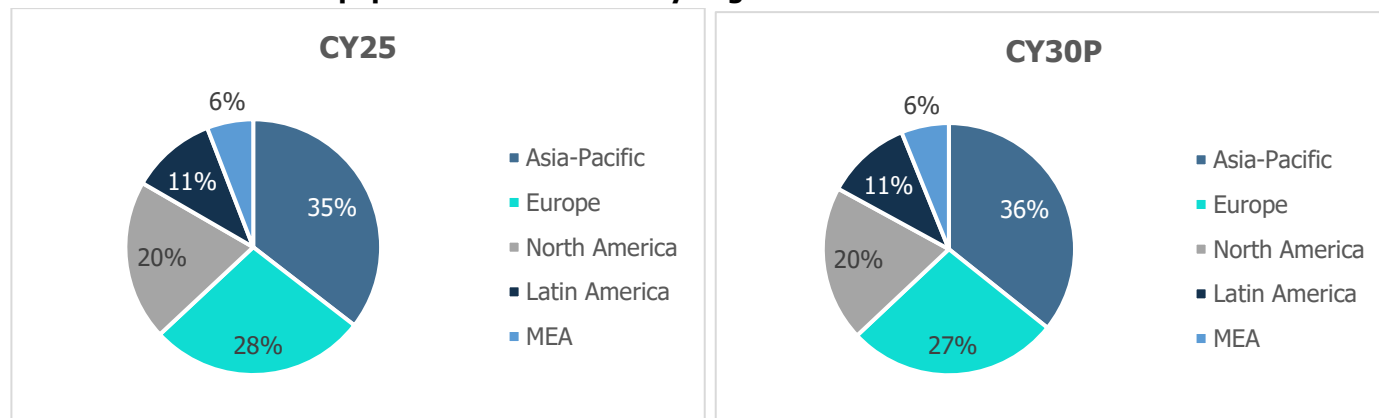
3.1.2 Global Farm Equipment Market Size by Region

As of CY25, the Asia-Pacific region is expected to account for the largest share of the global farm equipment market at 35%, followed by Europe at 28% and North America at 20%, while Latin America and the Middle East & Africa (MEA) together represent the remaining 17%. By CY30, Asia-Pacific's share is projected to further rise slightly to 36%, supported by rapid mechanization in countries such as India, China, and Southeast Asia.

In contrast, Europe and North America are anticipated to maintain stable shares of 27% and 20%, respectively, driven by sustained replacement demand, technological upgrades, and adoption of smart and autonomous farm machinery.

Meanwhile, Latin America and MEA are expected to collectively retain an 17% contribution, aided by improving farm credit access and agricultural reforms.

Chart 11: Global Farm Equipment Market Share by Region



Source: Custom Market Insights (CMI), CareEdge Research

3.1.3 Global Farm Equipment Market by Product Type

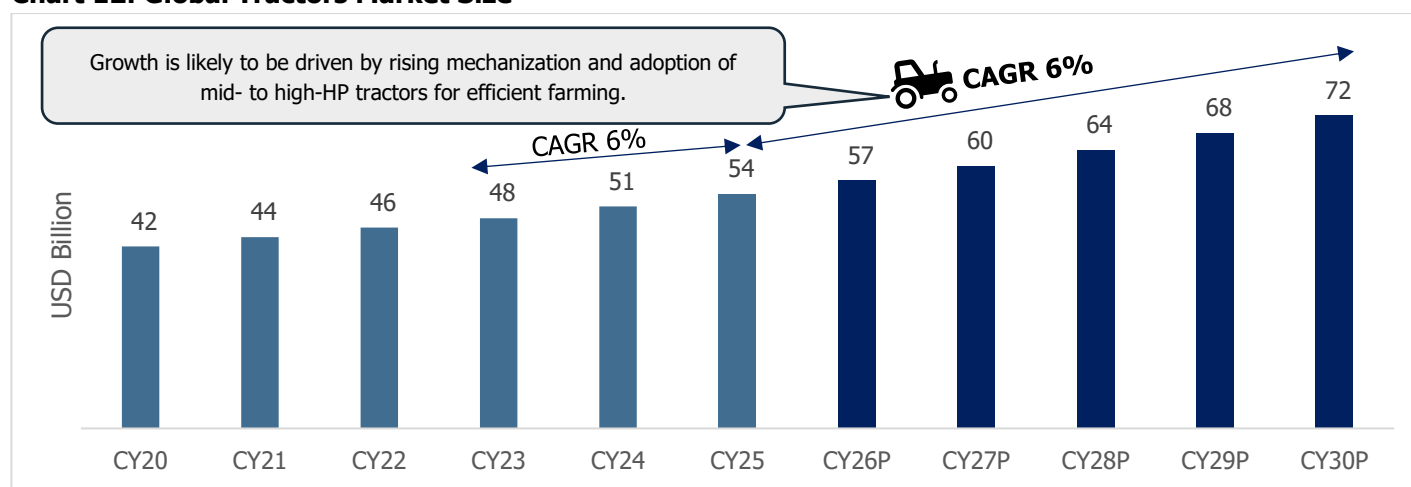
3.1.3.1 Tractors

The global tractor market, the largest segment within the farm equipment industry, was valued at USD 42 billion in CY20 to reaching USD 54 billion in CY25 and is projected to reach USD 72 billion by CY30, growing at a CAGR of 6%.

Growth is primarily driven by rising mechanization levels, especially in emerging economies, and increasing adoption of mid- and high-horsepower tractors for efficient farming. In developed markets, replacement demand and technological upgrades such as GPS integration, telematics, and automation continue to drive sales.

Furthermore, government subsidies, improved credit access, and precision farming practices are supporting small and medium farmers in adopting advanced tractors. Over the forecast period, demand is expected to remain strong in Asia-Pacific and Latin America, while North America and Europe will see steady adoption of smart and electric tractors, aligning with sustainability goals.

Chart 12: Global Tractors Market Size

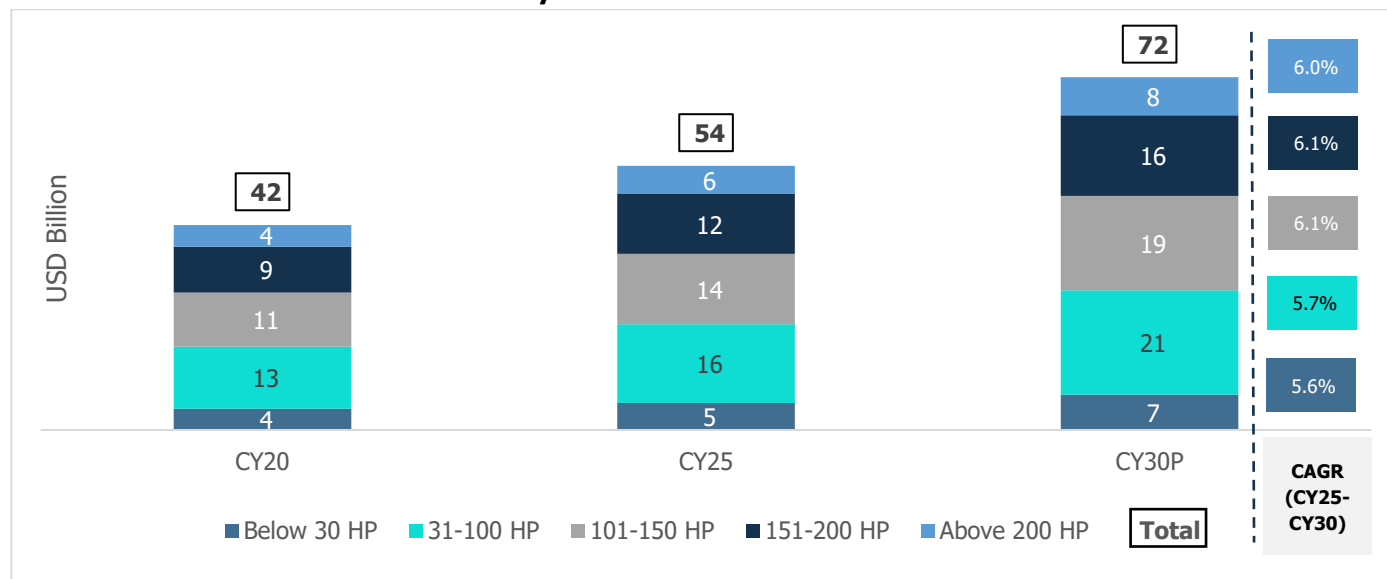


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.1.1 Global Tractors Market by Power

Demand for 31–150 HP tractors remain strong, driven by rising mechanization in Asia and precision farming adoption in developed markets. Whereas growth in 151 HP and above segments is supported by farm consolidation and expanding non-agricultural applications, while below 30 HP tractors see steady replacement-led demand in smallholder markets.

Chart 13: Global Tractors Market Size by Power

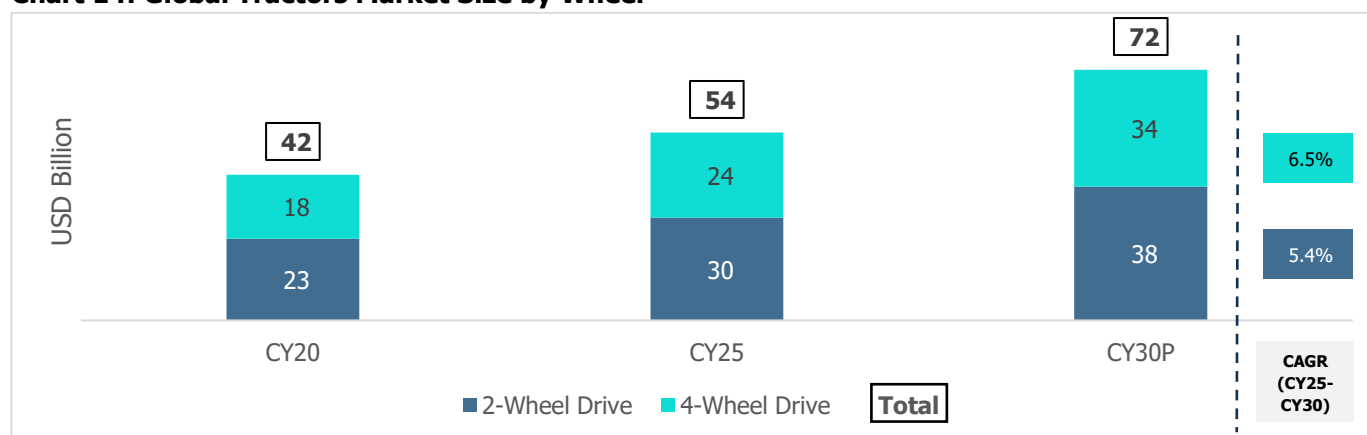


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.1.2 Global Tractors Market by Wheel

The 2-wheel drive tractors dominate global sales, accounting for a larger base, though growth remains moderate at 5.4% CAGR, supported by demand from small and mid-sized farms in developing economies. In contrast, 4-wheel drive tractors are expected to expand faster at 6.5% CAGR, driven by rising adoption in large-scale farming, increased mechanization in North America and Europe, and growing preference for higher horsepower models in emerging markets.

Chart 14: Global Tractors Market Size by Wheel



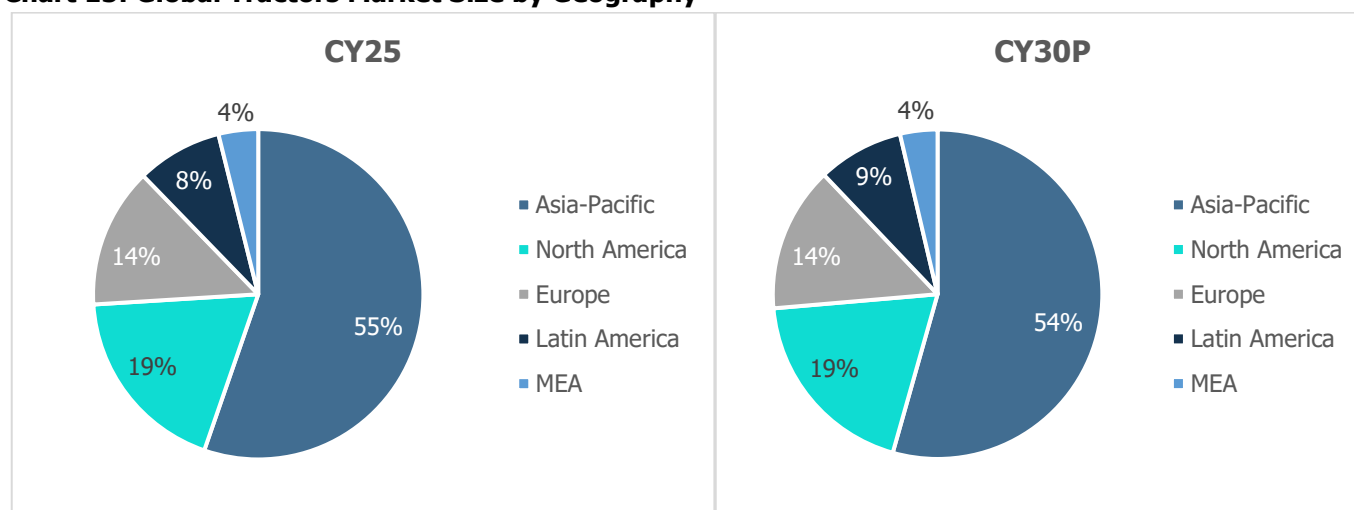
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.1.3 Global Tractors Market by Geography

In CY25, the global tractor market is predominantly driven by the Asia-Pacific region, accounting for 55% of total share, underscoring its strong agricultural base and mechanization demand. This dominance is expected to continue through CY30, with a marginal decline to 54%, indicating sustained yet slightly moderate growth as the market matures.

North America (19%) and Europe (14%) maintain steady contributions, reflecting stable replacement demand and adoption of high-tech tractors. Latin America shows a minor uptick from 8% to 9%, highlighting emerging mechanization trends and increased investment in agricultural infrastructure. Meanwhile, the Middle East & Africa (MEA) region remains relatively small at 4%, constrained by limited large-scale farming activity but with potential for gradual expansion. Overall, the market structure suggests continued regional stability with incremental growth in developing economies driving future volume gains.

Chart 15: Global Tractors Market Size by Geography



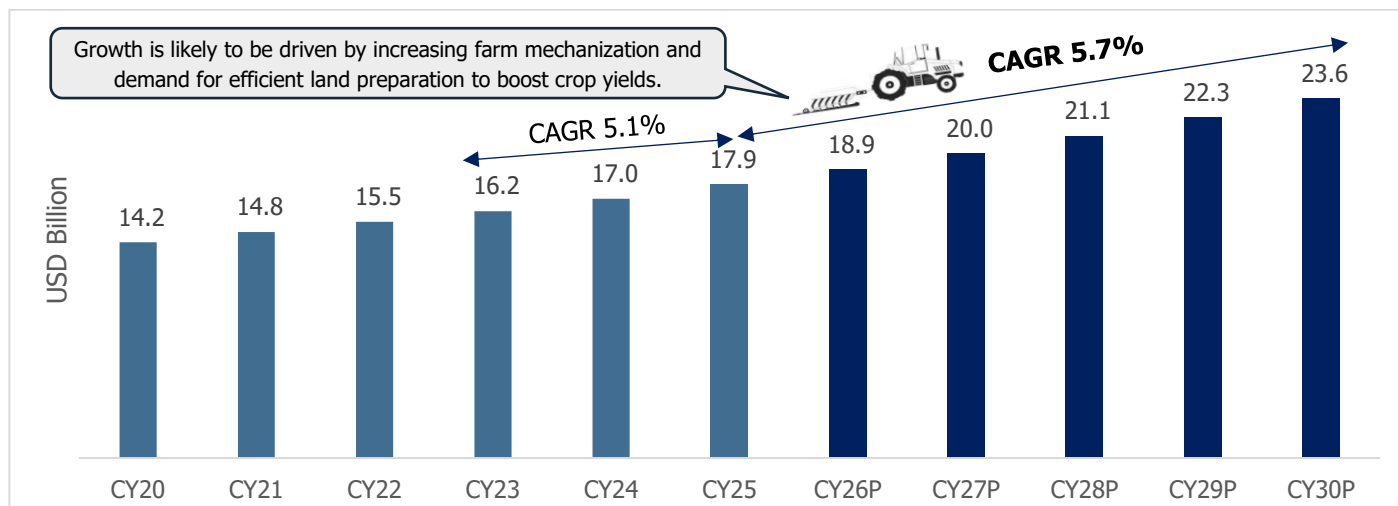
Source: Custom Market Insights (CMI), CareEdge Research

3.1.3.2 Soil Preparation & Cultivation Equipment

The global soil preparation and cultivation equipment market demonstrates a consistent upward trajectory, estimated to grow from USD 17.9 billion in CY25 to a projected USD 23.6 billion by CY30P, reflecting a 5.7% CAGR. This steady growth highlights the increasing mechanization of agriculture worldwide, driven by labor shortages, the adoption of precision farming technologies, and expanding farm sizes in emerging economies.

Between CY20 and CY25, the market expanded at a healthy pace, supported by post-pandemic recovery and government initiatives promoting agricultural modernization. Looking ahead, the projected rise through CY30 suggests sustained demand for efficient soil management tools and high-performance cultivation machinery, particularly across Asia-Pacific and Latin America.

Chart 16: Global Soil Preparation & Cultivation Equipment Market Size



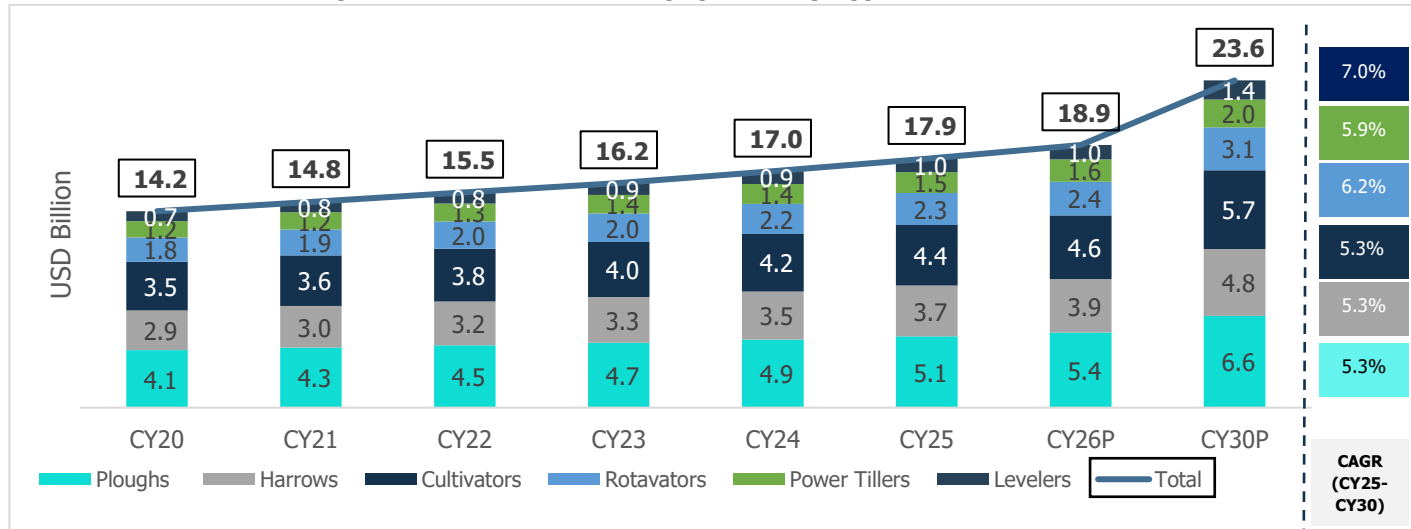
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.2.1 Global Soil Preparation & Cultivation Equipment Market by Type

The global market for soil preparation and cultivation equipment shows balanced yet evolving demand across equipment categories. Ploughs remain the largest segment, growing from USD 4.1 billion in CY20 to USD 5.1 billion in CY25. Further, the market is projected to grow at USD 6.6 billion by CY30, reflecting their essential role in primary tillage and widespread mechanization. Harrows and cultivators follow, reaching USD 4.8 billion and USD 5.7 billion, respectively, as precision farming and soil conservation practices gain traction.

Rotavators and power tillers also see consistent growth, particularly in Asia-Pacific, where small and medium farm sizes drive demand for compact, multi-purpose machinery. Levelers, while the smallest segment, show a strong relative growth from USD 0.7 billion to USD 1.4 billion, signaling increasing focus on field uniformity and water management efficiency. Overall, the market's diverse equipment mix highlights a trend toward integrated, efficient, and sustainability-driven mechanization across global farming systems.

Chart 17: Global Soil Preparation & Cultivation Equipment by Type



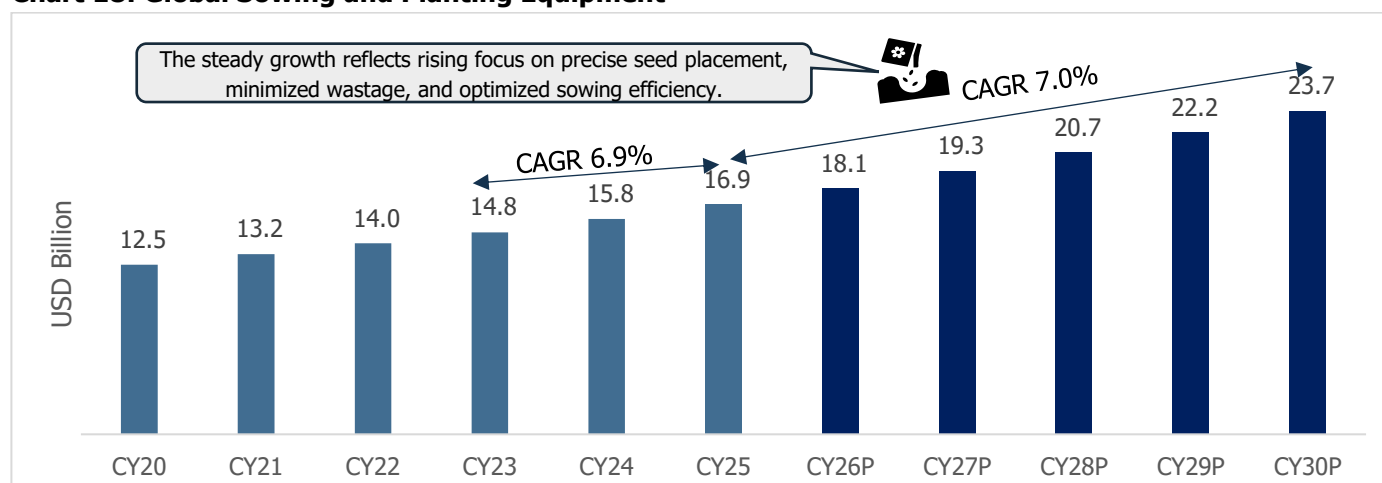
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.3 Sowing and Planting Equipment

The global sowing and planting equipment market is projected to expand steadily from USD 16.9 billion in CY25 to USD 23.7 billion by CY30, registering a CAGR of 7.0%. This strong growth reflects the rapid adoption of precision agriculture, smart seeding technologies, and mechanized farming practices aimed at improving crop yield and reducing manual labor dependency.

Demand is driven by increasing farm mechanization in developing nations, particularly in Asia-Pacific and Latin America, and the rising integration of GPS-enabled and automated planters in mature markets like North America and Europe. The steady upward trajectory indicates growing emphasis on efficient seed placement, reduced wastage, and time optimization during critical sowing periods. Overall, the segment's 7% CAGR underscores a shift toward productivity-driven, technology-integrated solutions that support sustainable and high-efficiency crop cultivation worldwide.

Chart 18: Global Sowing and Planting Equipment



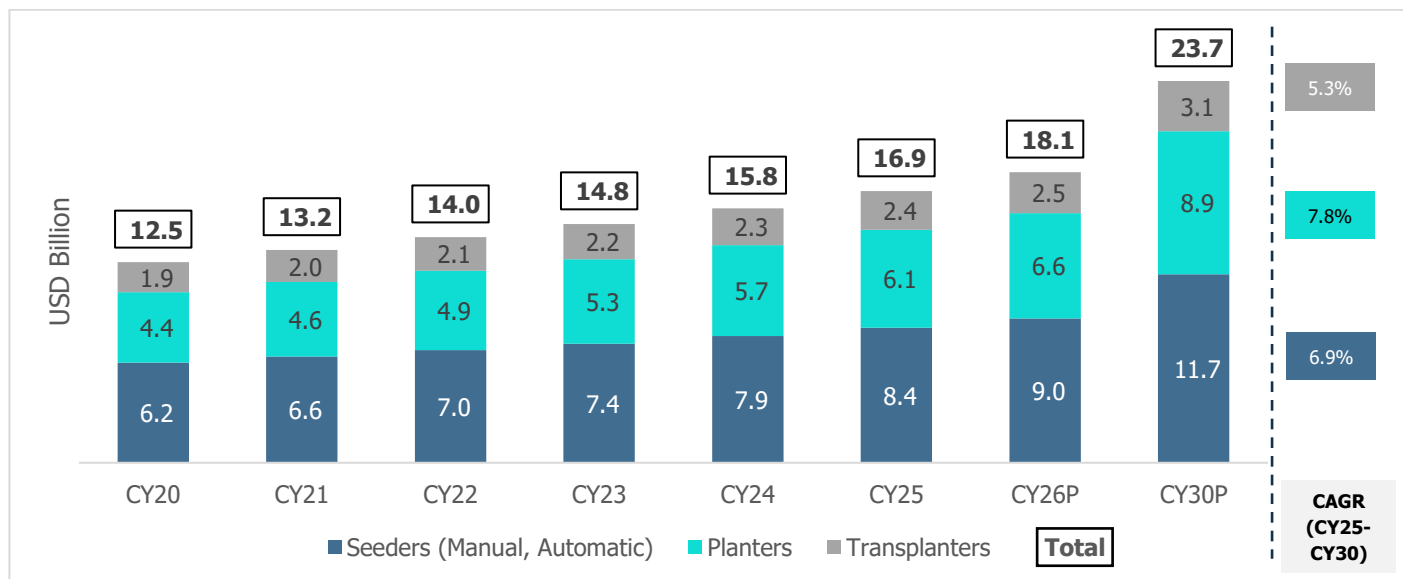
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.3.1 Global Sowing and Planting Equipment Market by Type

The global sowing and planting equipment market is projected to expand steadily from USD 12.5 billion in CY20 to USD 23.7 billion by CY30, reflecting consistent mechanization and adoption of precision agriculture. Seeders (manual and automatic) form the largest segment, rising from USD 6.2 billion in CY20 to USD 11.7 billion in CY30, supported by increasing demand for uniform seed placement and improved yield efficiency.

The planters' segment is expected to grow from USD 4.4 billion to USD 8.9 billion during the same period, driven by enhanced use of tractor-mounted planters in row crops. Transplanters, though smaller in share, are projected to rise from USD 1.9 billion to USD 3.1 billion, supported by adoption in rice cultivation and horticultural applications. Overall, the market's upward trajectory reflects greater farm mechanization, government subsidies, and a shift toward technology-driven farming solutions across emerging economies.

Chart 19: Global Sowing and Planting Equipment by Type



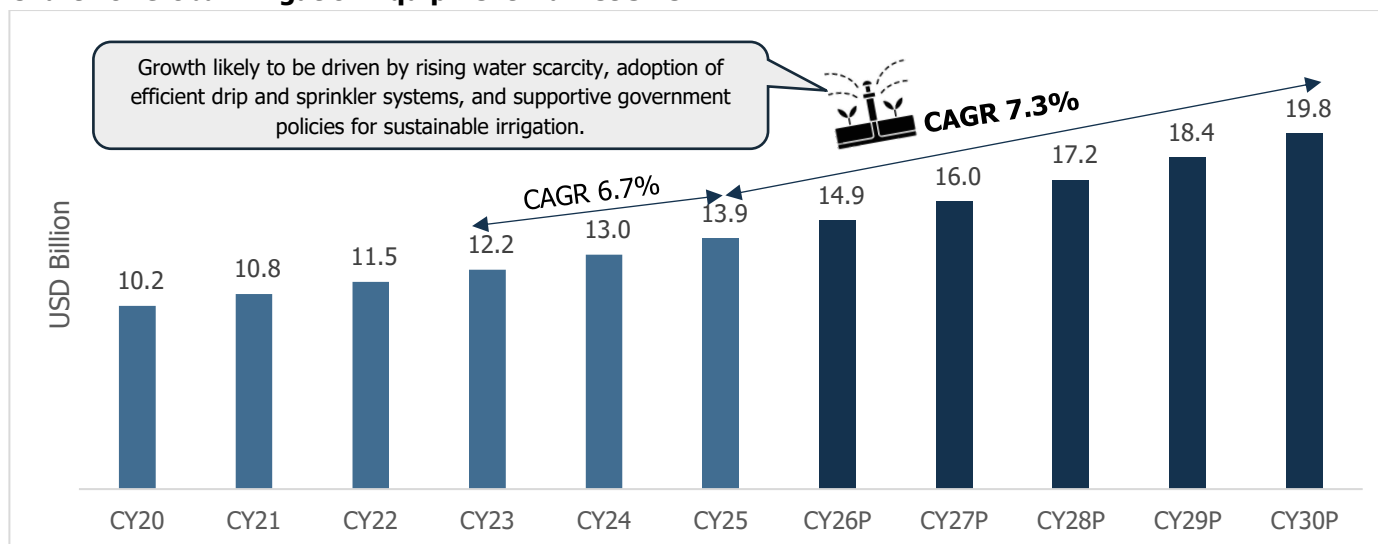
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.4 Irrigation Equipment

The global irrigation equipment market is expected to grow from USD 13.9 billion in CY25 to USD 19.8 billion by CY30, reflecting a healthy CAGR of 7.3%. This growth is driven by increasing water scarcity concerns, the rising adoption of efficient irrigation systems such as drip and sprinkler technologies, and supportive government initiatives promoting sustainable water use in agriculture.

Emerging markets in Asia-Pacific and the Middle East are witnessing rapid modernization, while developed regions are transitioning toward automated and smart irrigation solutions integrating IoT and sensor-based monitoring. The steady uptrend highlights a global shift from conventional flood irrigation to precision-controlled systems that optimize resource use and enhance productivity. Overall, the segment's strong CAGR signifies the expanding need for climate-resilient and water-efficient farming practices worldwide.

Chart 20: Global Irrigation Equipment Market Size



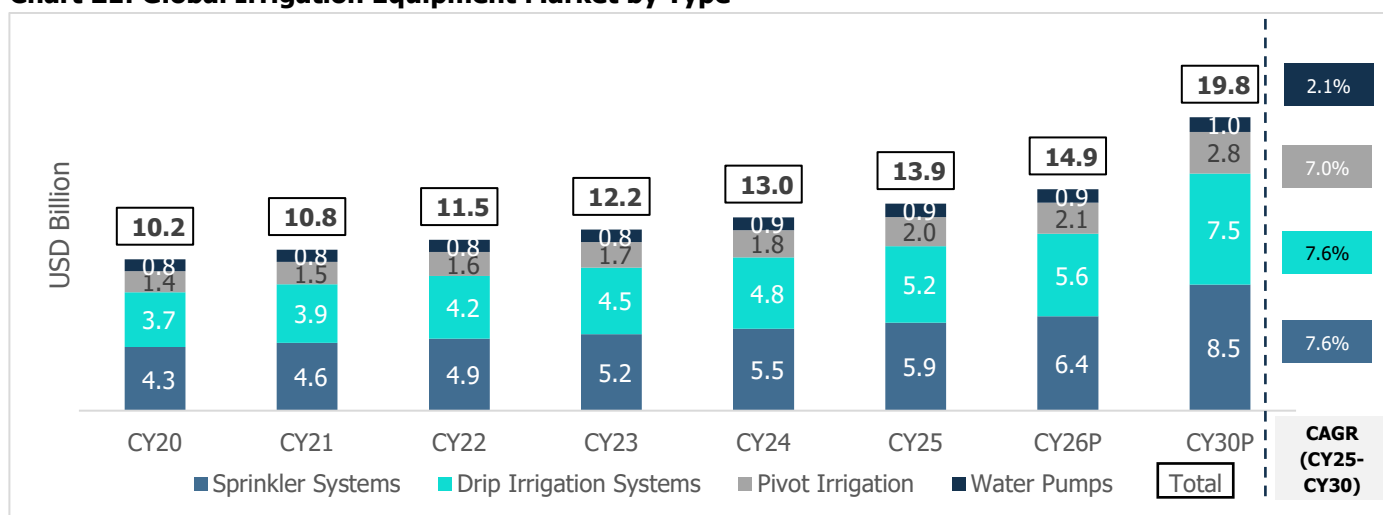
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.4.1 Global Irrigation Equipment Market by Type

The global irrigation equipment market is expected to increase from USD 10.2 billion in CY20 to USD 19.8 billion by CY30, driven by water scarcity concerns and the growing emphasis on efficient irrigation systems. Sprinkler systems remain the largest category, expanding from USD 4.3 billion to USD 8.5 billion, aided by their versatility across crop types and ease of installation.

Drip irrigation systems are poised for significant growth from USD 3.7 billion to USD 7.5 billion owing to their high water-use efficiency and adoption in water-stressed regions. Pivot irrigation is projected to increase moderately from USD 1.4 billion to USD 2.8 billion, reflecting gradual uptake in large-scale farms. Meanwhile, water pumps are expected to rise from USD 0.8 billion to USD 1.0 billion, primarily due to replacement demand and technological upgrades. The overall market growth underscores a global transition toward sustainable irrigation infrastructure supported by policy incentives and awareness of resource conservation.

Chart 21: Global Irrigation Equipment Market by Type

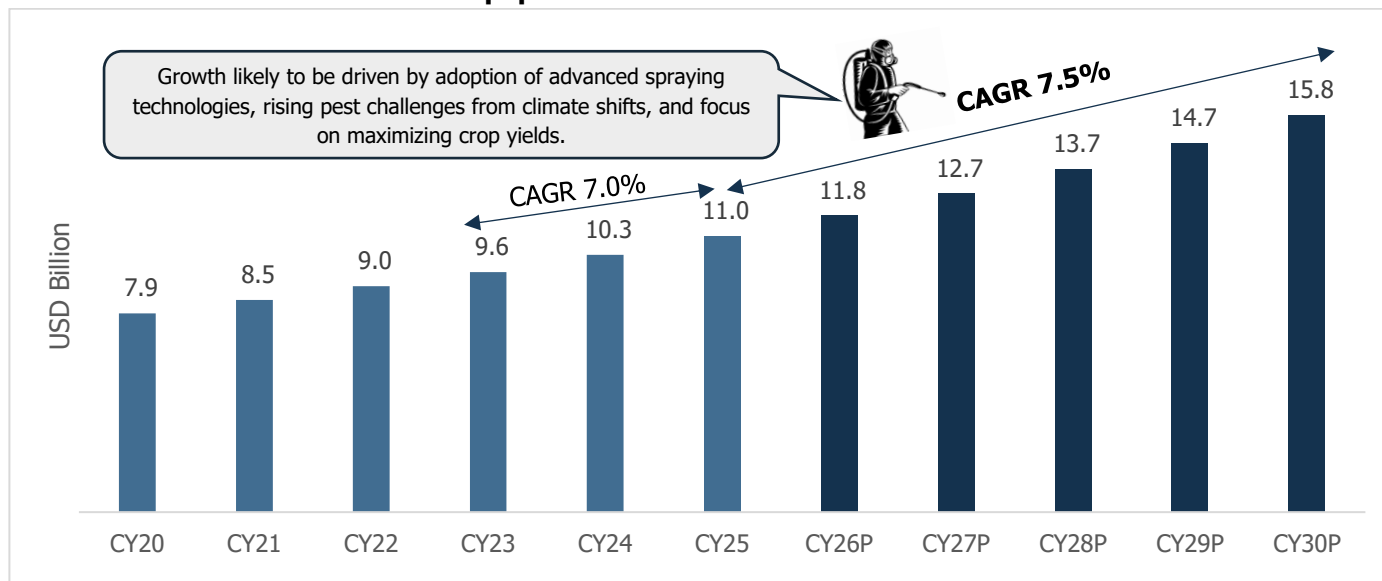


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.5 Plant Protection Equipment

The global plant protection equipment market is projected to expand from USD 11 billion in CY25 to USD 15.8 billion by CY30, registering a CAGR of 7.5% during the forecast period. This growth is driven by the increasing adoption of advanced spraying technologies, rising pest infestation concerns due to climate variability, and the growing emphasis on crop yield optimization.

The market has shown steady historical growth, rising from USD 7.9 billion in CY20 to USD 10.3 billion in CY24, supported by higher use of power sprayers, drones, and precision spraying systems. Global trends such as integrated pest management (IPM), regulatory focus on minimizing chemical overuse, and the introduction of battery-operated and sensor-based spraying equipment are further supporting market expansion. Overall, the sector is transitioning toward efficient, sustainable, and precision-oriented crop protection methods, aligning with broader agricultural modernization trends.

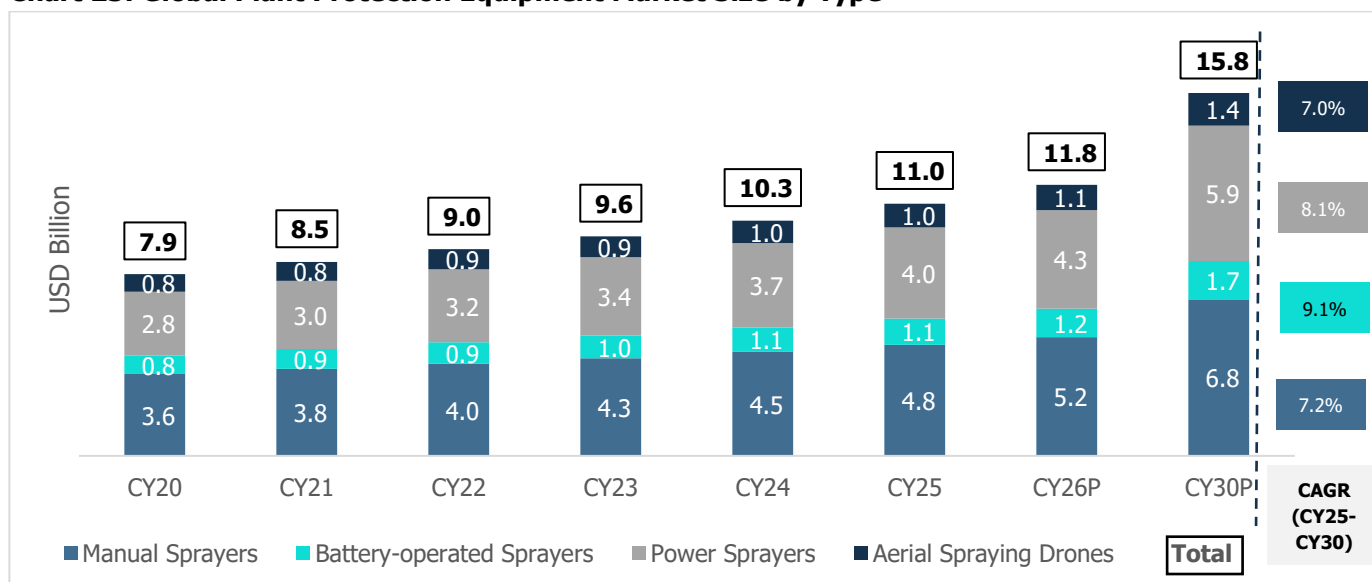
Chart 22: Global Plant Protection Equipment Market Size

Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.5.1 Global Plant Protection Equipment Market by Type

The global plant protection equipment market is witnessing steady expansion. The growth is primarily driven by the increasing adoption of advanced spraying technologies, particularly power sprayers and aerial spraying drones, which are emerging as the fastest-growing categories.

Rising pest infestation risks linked to climate variability and the growing need for efficient, uniform pesticide application are propelling demand for mechanized and precision spraying solutions. Meanwhile, manual and battery-operated sprayers continue to hold a significant share, especially in developing regions, where affordability and ease of operation remain key factors.

Chart 23: Global Plant Protection Equipment Market Size by Type

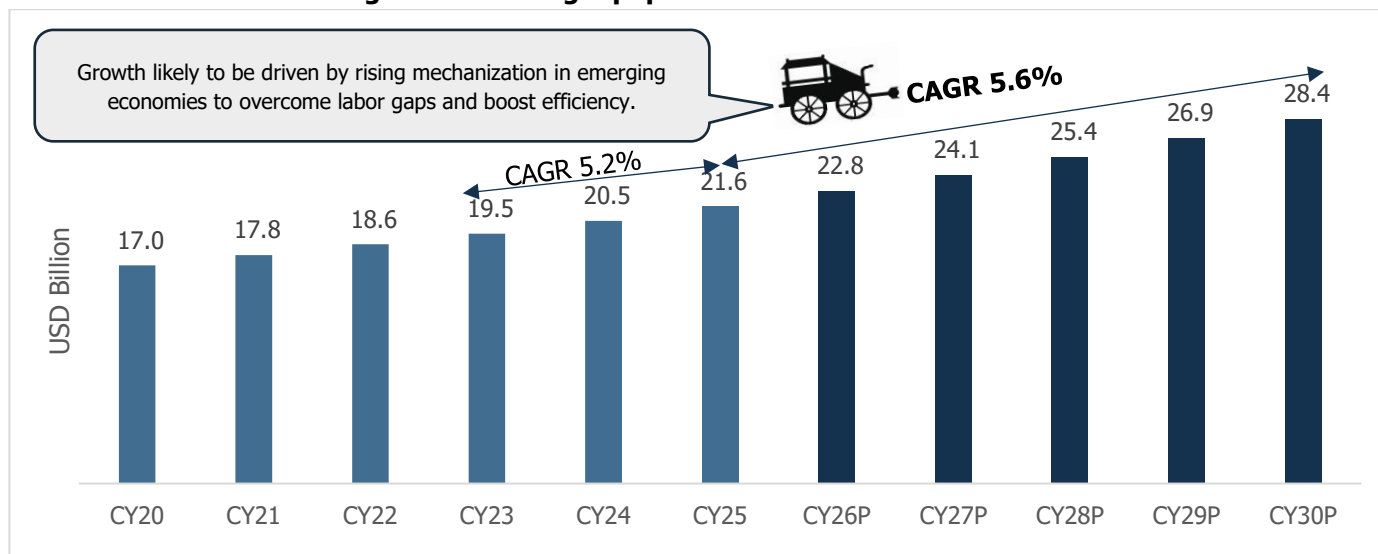
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.6 Harvesting and Threshing Equipment

The global harvesting and threshing equipment market is projected to grow from USD 21.6 billion in CY25 to around USD 28.4 billion by CY30, posting a CAGR of 5.6%. Growth is driven by the rising adoption of advanced mechanization, particularly in emerging economies, to address labour shortages and improve operational efficiency.

The demand for combine harvesters and threshers continues to accelerate, supported by government subsidies, custom hiring centres, and increasing farm sizes in key agricultural nations. Moreover, the focus on reducing post-harvest losses and enhancing crop recovery rates is further boosting the replacement and upgrade cycle of traditional machinery.

Chart 24: Global Harvesting and Threshing Equipment Market Size



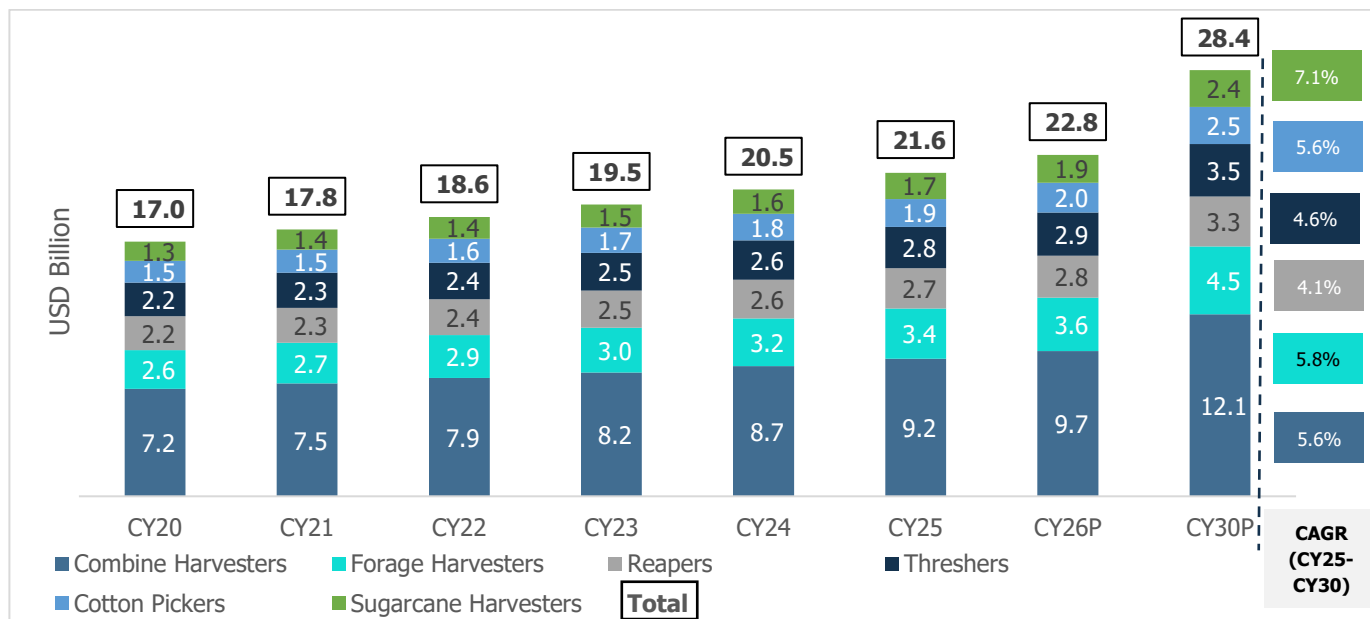
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.6.1 Global Harvesting and Threshing Equipment Market by Type

The global harvesting and threshing equipment market shows robust and consistent growth. Combine harvesters dominating the segment, accounting for the largest share, supported by widespread mechanization and increasing farm consolidation in both developed and emerging economies.

Segments such as sugarcane and forage harvesters are expected to witness the fastest growth, driven by rising commercial crop cultivation and a focus on labour efficiency and high-capacity operations. Additionally, demand for reapers and threshers remains steady, particularly in regions with fragmented land holdings and smallholder-driven farming systems.

Chart 25: Global Harvesting and Threshing Equipment Market Size by Type

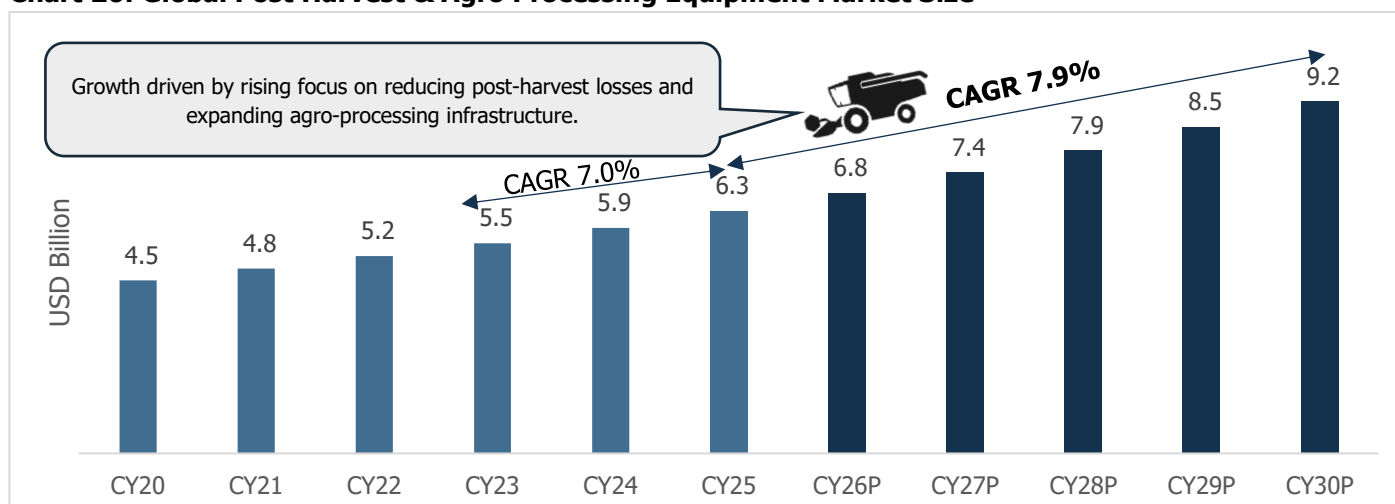


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.7 Post Harvest & Agro Processing Equipment

The Post-Harvest & Agro-Processing Equipment segment is projected to expand from USD 6.3 billion in CY25 to USD 9.2 billion by CY30, reflecting a strong 7.9% CAGR. This growth is fuelled by the rising need to reduce post-harvest losses, enhance food quality, and extend shelf life, alongside increasing investments in modern storage, grading, and drying technologies. Growing demand for value-added agricultural products and government focus on strengthening the agri-supply chain are further accelerating market adoption across developing regions.

Chart 26: Global Post Harvest & Agro Processing Equipment Market Size

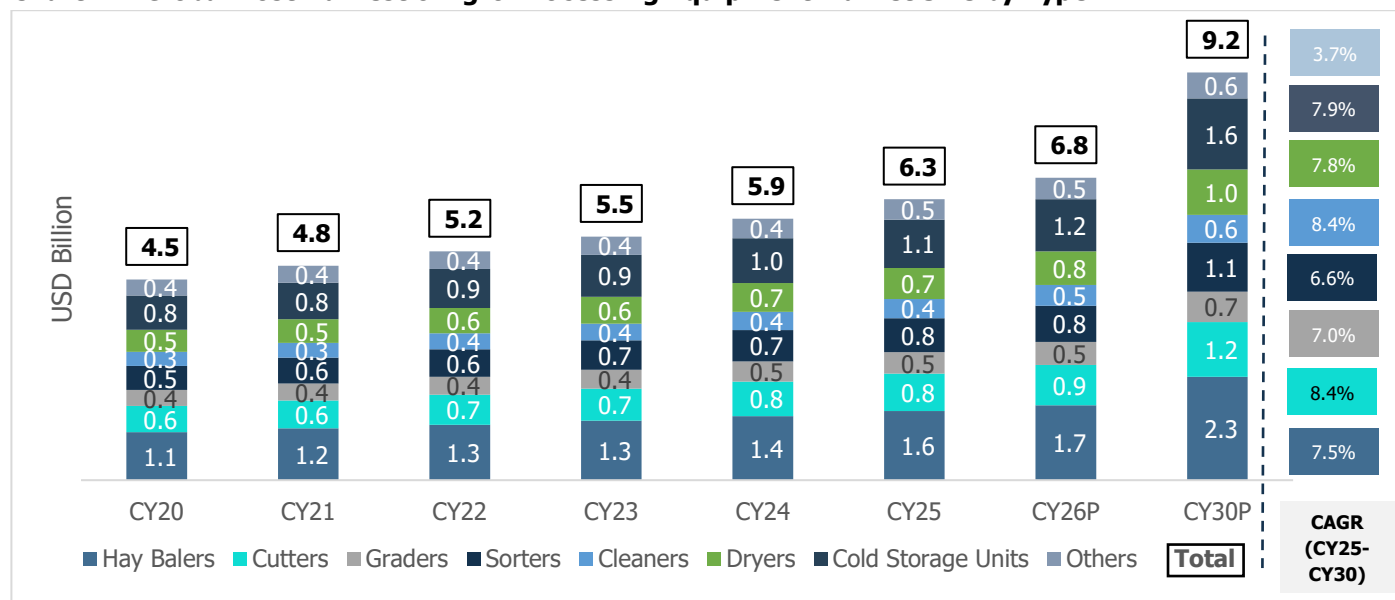


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.7.1 Global Post Harvest & Agro Processing Equipment Market by Type

The global post-harvest and agro-processing equipment market is projected to expand steadily. Hay balers continue to dominate the segment, accounting for the largest market share, supported by the growing adoption of mechanized

fodder management and rising livestock populations. Cold storage units are witnessing strong double-digit growth momentum, at around 10.8% until 2033, as per IBF. The growth is likely to be driven by government-backed cold chain infrastructure development and the surge in perishable commodity exports. Meanwhile, sorters, graders, and dryers are gaining traction due to the need for standardized quality control, moisture management, and longer shelf life of agricultural produce. Emerging economies in Asia-Pacific and Latin America are at the forefront of adoption, supported by public-private investments in agro-processing clusters and increasing integration of automation and digital control systems.

Chart 27: Global Post Harvest & Agro Processing Equipment Market Size by Type


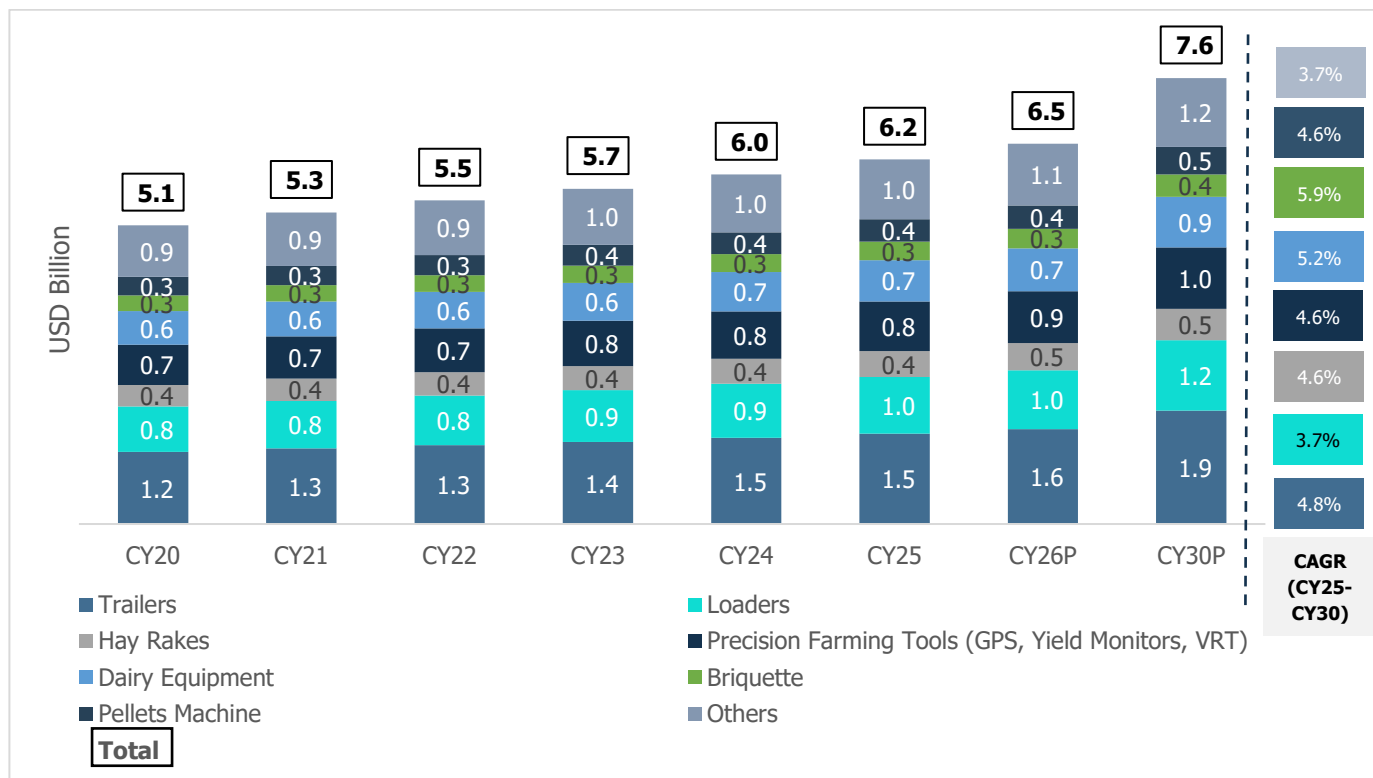
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.3.8 Other Equipment

The “other equipment” segment, encompassing trailers, loaders, precision farming tools, and dairy and hay equipment, is projected to grow moderately, reaching approximately USD 7.6 billion by CY30 from USD 6.2 billion in CY25. Growth is primarily supported by rising farm mechanization levels and expanding adoption of precision agriculture technologies, including GPS-based yield monitoring and variable rate tools.

Trailers and loaders continue to account for a significant portion of total value, reflecting ongoing investments in logistics and post-harvest handling. Meanwhile, the rising demand for data-driven farm management systems underscores the sector’s shift toward integrated, smart farming solutions. The gradual inclusion of IoT-enabled and AI-based machinery highlights the transition from conventional mechanization to digitally optimized, sustainable agriculture infrastructure.

Chart 28: Global Other Equipment Market Size by Type



Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

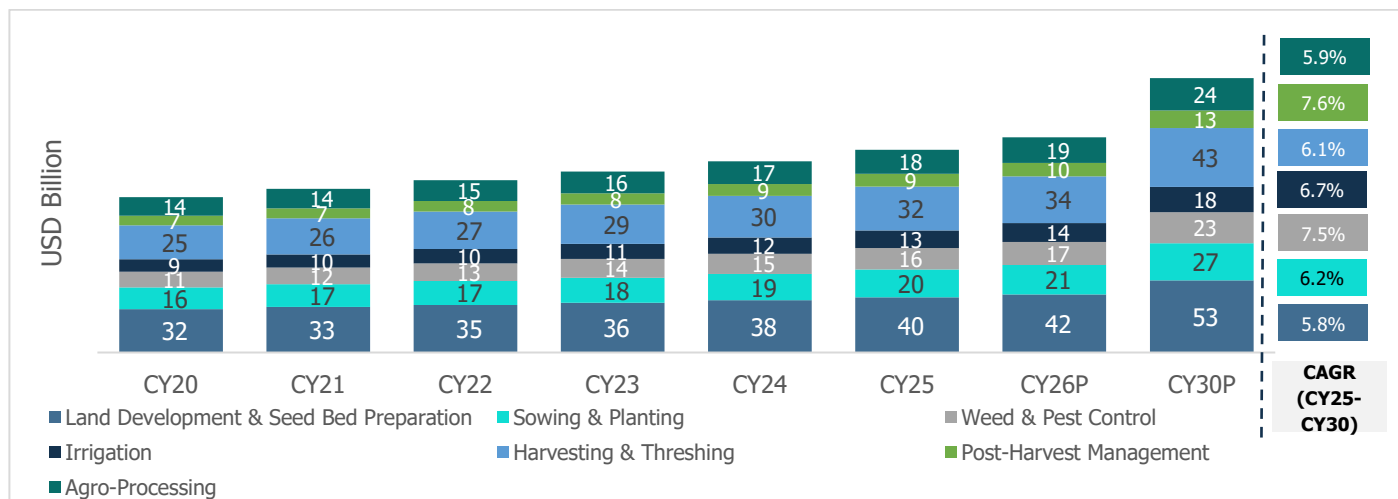
3.1.4 Global Farm Equipment Market Size by Application

Soil Preparation and Cultivation continue to dominate the market, driven by the widespread adoption of tractors and tillage equipment to enhance soil productivity and optimize pre-sowing operations. Sowing & Planting equipment follows closely, witnessing steady gains due to the increasing use of precision seeders and planters that improve seed placement accuracy and reduce wastage.

Meanwhile, Weed & Pest Control and Irrigation equipment are emerging as the fastest-growing segments, with CAGR values of 7.5% and 7.7%, respectively. Their growth is backed by the rising adoption of precision spraying systems, drip and sprinkler irrigation technologies, and government incentives promoting sustainable water and input management. Harvesting & Threshing remains a core mechanization area, reflecting continuous replacement demand and technological upgrades for efficiency enhancement.

Moreover, Post-Harvest Management and Agro-Processing segments are gaining traction as value-addition and loss-reduction priorities increase across global agri-value chains. The push toward food security, efficient supply chains, and improved farmer income through post-harvest value capture is expected to further accelerate investments in these segments over the next decade.

Chart 29: Global Farm Equipment Market by Application

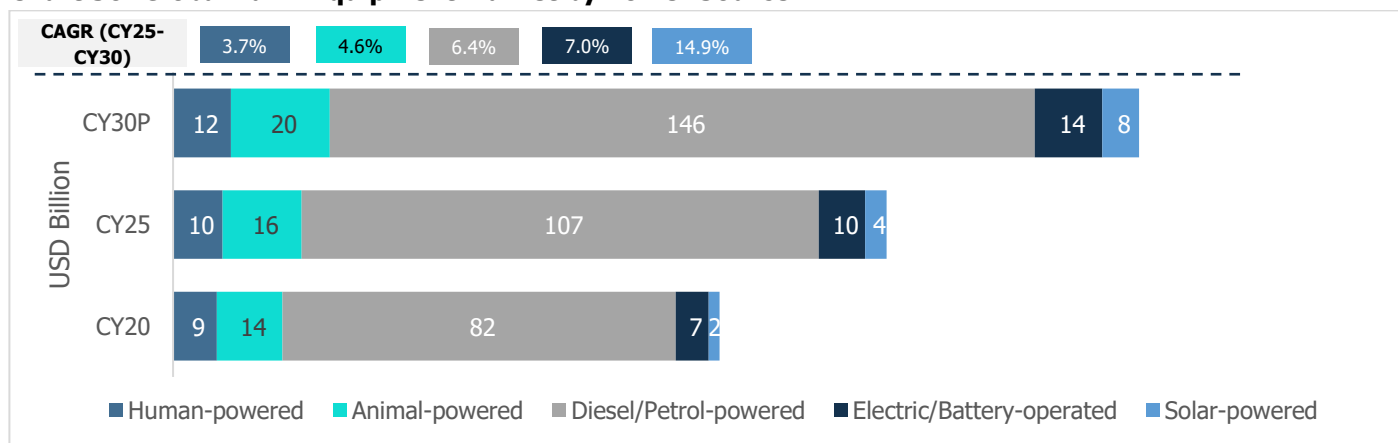


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.5 Global Farm Equipment Market Size by Power Source

The global farm equipment market remains dominated by diesel/petrol-powered machinery, accounting for over 70% share, projected to rise from USD 82 billion in CY20 to USD 146 billion by CY30. This growth is driven by their reliability and suitability for large-scale farming operations. Human- and animal-powered equipment, though gradually declining in share, continue to hold relevance in smallholder and developing regions, together reaching USD 32 billion by CY30. Meanwhile, electric/battery-operated and solar-powered equipment are gaining traction, expanding from USD 9 billion in CY20 to USD 22 billion by CY30, supported by growing sustainability focus, favourable government incentives, and technological advancements in low-emission farm machinery. The government focus towards renewable energy sources is expected to support the demand for solar power growth growing at a CAGR of 11.4% until CY30.

Chart 30: Global Farm Equipment Market by Power Source



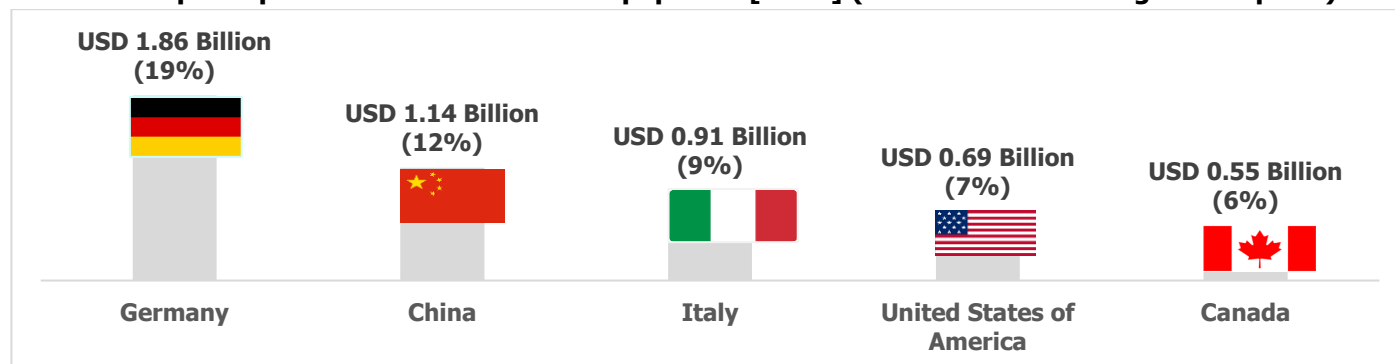
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.1.6 Top Exporter Countries of Farm Equipment

The global export market for farm equipment is dominated by a few key manufacturing hubs, primarily in Europe and North America. The following data, based on recent trade analyses (for agricultural machinery), highlights the top exporters and their estimated market share. Germany lead due to the presence of major original equipment

manufacturers (OEMs) like John Deere, AGCO, CLAAS, and CNH Industrial. These countries excel in high-value, technologically advanced machinery. China is an emerging force in the sector, particularly in the mid-range and lower-cost equipment segment, increasingly exporting to Southeast Asia, Africa, and South America. Italy is well known for its strong specialization in tractor manufacturing and for producing efficient and design-focused agricultural machinery.

Chart 31: Top 5 Exporter Countries of Farm Equipment [CY25] (% denotes share of global exports)

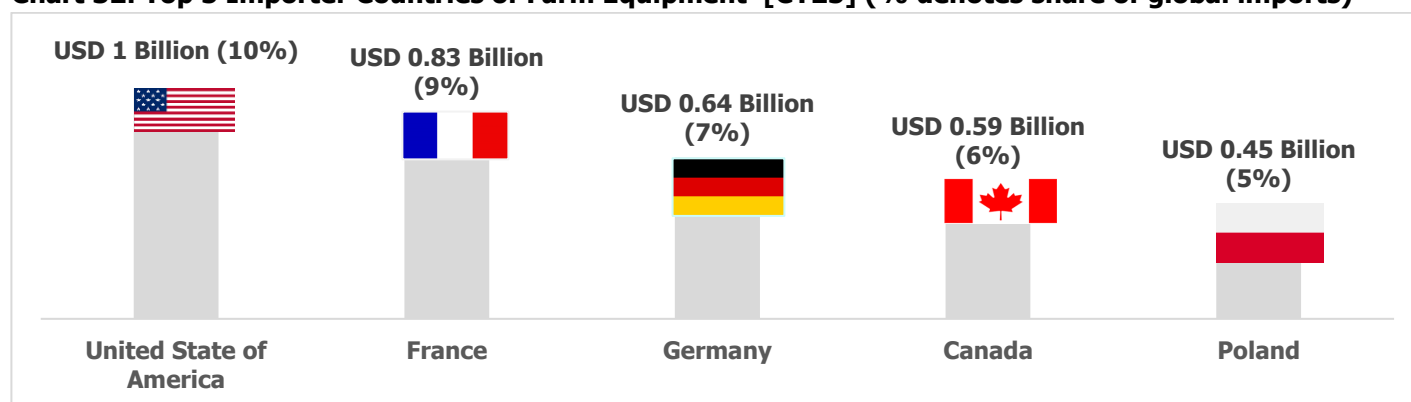


Source: Trade Map, CareEdge Research; % denote share of global exports

3.1.7 Import of farm equipment by top 5 countries

The import landscape is driven by large agricultural producers with significant domestic demand that outpaces local manufacturing capabilities or requires specialized, high-tech equipment. The United States remains a top importer, reflecting its massive, diverse agricultural sector and a complex supply chain where components and finished goods move fluidly across borders freely, particularly within North America. France and Germany represent mature European markets focused on upgrading to precision and technologically advanced machinery to enhance efficiency and sustainability. Canada continues to import specialized and high-capacity equipment suited to its expansive farming operations. Meanwhile, Poland is emerging as a significant importer, driven by agricultural modernization efforts, European Union funding support, and increasing investment in productivity-enhancing technologies.

Chart 32: Top 5 Importer Countries of Farm Equipment [CY25] (% denotes share of global imports)



Source: Trade Map, CareEdge Research; % denote share of global exports

3.1.8 Government policies and subsidies

Government policies and subsidies remain the single most decisive external force shaping the global farm equipment industry. Their influence extends beyond financial aid touching food security, sustainability, rural livelihoods, and

industrial competitiveness. These frameworks not only drive equipment demand but also steer technological innovation, localization, and environmental adaptation.

Key Countries Assessment

Country	Key Subsidies & Support Mechanisms	Policy Focus Areas	Analytical Insight
 India	MSP for major crops, PM-KISAN direct income support, fertilizer and power subsidies, capital subsidies for mechanization and irrigation	Income stability, food security, mechanization, climate resilience	Strong support stabilizes farm incomes and input demand, but MSP-led incentives create crop concentration (rice–wheat) and fiscal pressure
 China	Direct payments to grain farmers, input subsidies, machinery purchase subsidies, state grain procurement	Grain self-sufficiency, productivity improvement, technology adoption	Policy emphasis on scale and mechanization supports equipment demand, while strategic reserves stabilize domestic prices
 United States	Crop insurance subsidies, Price Loss Coverage (PLC), Agricultural Risk Coverage (ARC), conservation payments	Risk management, farm income protection, sustainability	Insurance-led support reduces income volatility and encourages capital investment, supporting steady demand for advanced farm machinery
 European Union	Common Agricultural Policy (CAP) direct payments, rural development funds, eco-scheme incentives	Sustainability, farm income support, environmental compliance	Subsidies increasingly linked to environmental performance, accelerating adoption of precision and low-emission equipment
 Brazil	Subsidised rural credit (Plano Safra), interest subvention, crop insurance support	Export competitiveness, productivity growth, credit access	Credit-driven support boosts investment in large-scale mechanization, strengthening Brazil's role in global agri-exports

Developed Economies: The Shift from Support to Sustainability

➤ Evolving Focus:

Traditional direct subsidies and crop insurance (e.g., under the US Farm Bill) have long de-risked farming, indirectly stimulating demand for large and efficient machinery.

However, modern reforms are steering toward “green conditionality”—tying financial support to sustainable practices.

➤ European Union Leadership:

The Common Agricultural Policy (CAP) now links payments to compliance with environmental standards—encouraging crop rotation, reduced tillage, and biodiversity conservation.

➤ Technology Implications:

Farmers must increasingly adopt precision agriculture tools, including sensor-equipped tractors, drones, and data-driven platforms, to qualify for these incentives. Thus, environmental compliance is evolving into a technology adoption driver.

Emerging Economies: Mechanization for Growth and Self-Reliance

➤ India's Dual Push:

Direct subsidies for tractors and tillers have made India the world's largest tractor market, while the *Make in India* and PLI schemes strengthen local manufacturing and exports.

➤ China's Mechanization Mission:

Heavy subsidies for domestic machinery and farm modernization programs are transforming smallholder agriculture into mechanized production systems.

➤ Localized Manufacturing:

Import substitution policies in Brazil and Russia, including high tariffs on fully built units, compel global OEMs to assemble locally and transfer technology, building domestic industrial ecosystems.

3.1.9 Key Technological Trends

3.1.9.1 Precision Agriculture

Once a niche advantage for progressive farmers, precision agriculture has now become a mainstream operational norm redefining farming from a uniform, field-level activity into a hyper-specific, data-driven management system. Its fundamental principle remains simple yet transformative: the right input, in the right amount, at the right time, and in the right place.

1. Technology Backbone: GPS and Automation

The foundation of precision agriculture lies in Global Positioning System (GPS) and Global Navigation Satellite System (GNSS) technologies.

- Auto-steer and guidance systems minimize overlaps and missed passes, saving fuel, time, and inputs.
- Over time, these tools have evolved into Variable Rate Technology (VRT), which automatically adjusts seed, fertilizer, and pesticide application rates based on real-time data.
- This shift ensures optimal utilization of inputs, improving both farm economics and environmental efficiency.

2. Data Intelligence: The "Eyes" of the Field

Precision farming is driven by real-time data streams collected from multiple sources:

- Drones and UAVs equipped with multispectral and thermal sensors detect pest outbreaks, water stress, and nutrient deficiencies before they're visible to the human eye.
- On-planter sensors monitor soil moisture, texture, and organic matter, dynamically adjusting seed depth and population for ideal germination.

- This integrated data ecosystem allows farmers to move from *reactive management* to *predictive decision-making*.

3. Smart Implements: The Future of Field Operations

The evolution of precision farming has led to smart machinery and AI-driven implements.

- Advanced “See-and-Spray” systems, powered by computer vision and machine learning, distinguish between crops and weeds in real time—targeting only weeds and cutting herbicide use by up to 90%.
- Similar AI-based spreaders and sprayers now fine-tune fertilizer or pesticide doses per square meter, significantly enhancing productivity while reducing environmental footprint.
- These innovations represent the convergence of mechanization, digitization, and sustainability in modern agriculture.

4. Economic & Environmental Payoff

The impact of precision agriculture extends beyond productivity gains:

- **Economic Efficiency:** Reduced input costs, optimized labor use, and improved yields enhance farm profitability.
- **Environmental Compliance:** Lower chemical and fuel usage helps meet tightening global sustainability norms.
- **Scalability:** What began as a large-scale farming tool is now being adapted to smallholder and emerging-market contexts through affordable, modular technologies.

3.1.9.2 Usage of AI in Agriculture Sector

Artificial Intelligence (AI) has become the intellectual engine of modern agriculture, transforming data-rich precision farming into smart, autonomous, and predictive systems. By integrating AI with IoT, robotics, and remote sensing, agriculture is evolving from experience-based management to evidence-driven decision-making.

1. Predictive Intelligence: Forecasting Before It Happens

AI’s most powerful contribution lies in predictive analytics. Machine Learning (ML) models analyze vast datasets combining historical yield records, soil profiles, weather patterns, and satellite imagery to forecast crop yields with high accuracy.

- These forecasts aid harvest planning, logistics, and market pricing.
- Early-warning models can predict pest infestations and disease outbreaks, enabling targeted, preemptive action rather than broad chemical use.

This shift from reaction to prediction represents a major leap in risk management and sustainability.

2. Computer Vision: Seeing Beyond Human Capability

Computer vision systems are redefining automation and quality control across the value chain.

- In the field, AI-driven “see-and-spray” systems differentiate weeds from crops in real time, reducing chemical use by up to 90%.
- On harvesters, AI vision modules assess grain quality and auto-adjust harvesting parameters to minimize losses.
- In orchards, robotic fruit pickers equipped with 3D vision and soft-grip arms identify ripeness and harvest produce without bruising.
This level of precision directly translates into higher output quality and resource efficiency.

3. Digital Twins and Farm Simulations

AI is enabling the creation of digital twins’ virtual replicas of real farms. These models simulate the outcomes of decisions such as altering planting schedules, irrigation timing, or fertilizer blends, allowing farmers to test scenarios before implementation. The result is data-optimized farming strategies that balance productivity, profitability, and environmental goals.

4. Toward Fully Autonomous Farming Systems

The convergence of AI, IoT sensors, and robotics is propelling agriculture toward autonomous operations. Fleets of self-driving tractors, drones, and implements coordinated by a central AI “farm brain” can work continuously, making real-time adjustments for weather, soil, and crop variability. Such systems redefine efficiency by maximizing productivity per square meter while reducing labor dependency and operational downtime.

3.1.10 Sustainability and Environmental Regulations

The global farm equipment industry is entering a regulatory-led transformation driven by the urgency of sustainability and climate goals. This shift is not merely a response to consumer trends it is compliance-driven, as governments worldwide tighten environmental mandates across emissions, water use, and soil health. Equipment manufacturers now sit at the intersection of environmental responsibility and economic performance, developing technologies that help farmers meet sustainability targets without compromising profitability.

Emission Regulations Driving Powertrain Innovation

Diesel-powered machines the backbone of modern agriculture—are under regulatory scrutiny for their greenhouse gas and particulate emissions.

- In North America (Tier 4) and Europe (Stage V), emission standards have compelled OEMs to integrate advanced after-treatment systems such as Diesel Particulate Filters (DPFs) and Selective Catalytic Reduction (SCR).
- These mandates are now accelerating the shift toward alternative powertrains.

Electric tractors are emerging for low-load and indoor applications, offering zero tailpipe emissions and quieter operations. Meanwhile, hydrogen fuel cell technology is gaining traction for high-horsepower equipment, combining longer range and faster refuelling positioning it as a promising solution for sustainable heavy-duty farming. These innovations align with global net-zero commitments from governments and agribusiness supply chains alike.

From Compliance to Enablement: Equipment as a Sustainability Tool

Beyond engines, the next regulatory wave targets farming practices themselves.

- The EU's "Farm to Fork" strategy aims to cut nutrient losses and pesticide use by 50% by 2030 a goal achievable only through advanced technology adoption.
- Precision agriculture tools, such as Variable-Rate Technology (VRT) and sensor-based application systems, enable farmers to apply inputs precisely where needed, minimizing nitrogen runoff and chemical load.

Simultaneously, soil health and carbon sequestration goals are reshaping implement design. Conservation tillage, no-till systems, and cover cropping are driving demand for Seeders and cultivators capable of operating in high-residue fields. Manufacturers are responding with equipment that not only enhances productivity but also improves soil structure and biodiversity.

Redefining Value: From Productivity to Sustainability Metrics

The traditional benchmark for equipment acres covered per day is giving way to sustainability performance indicators such as:

- Carbon footprint per bushel,
- Input efficiency per hectare, and
- Compliance with sustainable supply chain standards.

Modern equipment increasingly comes with data-logging and traceability features, allowing farmers to document and verify sustainable practices for carbon credit programs or audit-based certifications. This integration of environmental accountability with financial resilience is transforming equipment purchasing decisions into long-term sustainability investments.

3.1.11 Global GDP Growth Trends Affecting Agriculture Sector

The relationship between global GDP growth and the agriculture sector is complex and multifaceted, creating a dynamic demand environment for farm equipment. In essence, agriculture is both a contributor to and a dependent of macroeconomic health, with the impact varying significantly between developed and developing economies.

1. Economic Expansion Fuels Mechanization and Demand

Periods of robust global GDP growth create a favorable environment for agricultural investment and equipment demand. Rising incomes, especially in emerging economies, drive a dietary shift from staple grains to protein-rich foods such as meat, dairy, and eggs, increasing the need for feed crops like corn and soybeans. Higher commodity prices and improved farm profitability enable farmers to invest in modern, high-efficiency machinery to expand and optimize production. Simultaneously, industrial uses of crops such as biofuels, bioplastics, and pharmaceuticals add a non-food demand layer, strengthening the case for capital investments in advanced equipment.

2. Downturns Curtail Investments and Prolong Equipment Lifecycles

In contrast, economic slowdowns sharply reduce farm profitability and equipment purchases. Weaker consumer spending curtails demand for high-value food products, while farmers face a "cost-price squeeze" as input costs for fuel, fertilizer, and labor remain elevated despite falling output prices. Tight credit conditions and higher interest rates make financing new machinery more difficult, prompting farmers to delay fleet renewal and rely on existing or used equipment. This cyclical behavior underscores the farm equipment industry's strong correlation with global GDP momentum.

3. Sensitivity and Strategic Adaptation

The agriculture sector's response to GDP shifts is both immediate and structural. During growth cycles, investment surges in automation, digital technologies, and precision farming accelerate modernization. Conversely, in downturns, the focus shifts to cost optimization, aftermarket services, and asset utilization. For equipment manufacturers, understanding these macroeconomic linkages is critical for anticipating demand cycles, managing inventory, and aligning product strategies with the evolving economic landscape of global agriculture.

3.1.12 Key Growth Drivers

1. Rising Mechanization Across Emerging Economies

Developing regions such as India, Southeast Asia, Africa, and Latin America are witnessing a structural shift from manual to mechanized farming. Factors like shrinking rural labor availability, rising rural wages, and government push for productivity enhancement are driving adoption. India's farm mechanization rate (~45%) still lags behind China (~70%) and the U.S. (>90%), signaling a vast untapped potential. Increasing access to affordable financing, custom-hiring centers, and localized equipment manufacturing is expected to accelerate mechanization growth over the next decade.

2. Technological Convergence: Precision, Smart, and Autonomous Farming

The agriculture equipment landscape is being redefined by precision agriculture, IoT, and AI integration. GPS-guided tractors, drone-based field monitoring, and variable-rate technology (VRT) are enabling farmers to optimize inputs like seed, fertilizer, and pesticide at micro levels improving yields by 10–15% while cutting costs by 20–30%. The rise of autonomous tractors, sensor-based implements, and data-driven farm management systems reflects a shift toward digitalized, outcome-based farming.

3. Sustainability and Environmental Compliance Push

Tightening emission standards (Tier 4, Stage V) and global climate commitments are reshaping equipment design and propulsion systems. Manufacturers are transitioning toward electric, hybrid, and hydrogen-powered tractors and harvesters, aligning with net-zero targets and decarbonization mandates. Simultaneously, policies like the EU's Farm to Fork Strategy are driving adoption of implements that reduce chemical use, soil erosion, and carbon footprint. Sustainability has evolved from a regulatory constraint to a commercial differentiator, as carbon-efficient and eco-certified machinery gain preference in procurement and subsidy programs.

4. Shifting Global Food Demand and Value Chain Expansion

With global population set to surpass 9.7 billion by 2050, food demand is projected to rise by ~50%, alongside a structural shift in diets toward protein-rich and processed foods. This surge is boosting cultivation of feed crops (corn, soy), horticultural produce, and biofuel feedstocks all requiring intensive mechanization. Moreover, agribusinesses are investing in post-harvest and processing equipment to reduce losses (currently 15–20% globally). Higher commodity prices and supply chain integration are enabling farmers to reinvest in high-efficiency machinery, expanding the replacement and modernization cycle.

5. Government Support, Credit Access, and Infrastructure Modernization

Public policy remains a decisive accelerator. Subsidy programs (e.g., India's PM-KUSUM, Sub-Mission on Agricultural Mechanization) and EU rural development funds are lowering equipment acquisition costs. Furthermore, leasing models, digital credit scoring, and fintech-led farm financing are making machinery accessible to small and mid-size farmers. Investment in rural road networks, storage, and irrigation infrastructure is also enabling greater machinery utilization efficiency. The outcome is a more inclusive and commercially viable farm equipment market ecosystem.

6. Labour shortage

Labour shortage has become a key structural driver for growth in the agricultural equipment sector. Rising rural-to-urban migration, an ageing farming workforce, and increased wage costs have led to a consistent decline in the availability of farm labour, especially during peak sowing and harvesting seasons. As a result, farmers are increasingly shifting toward mechanisation to ensure timely field operations, improve productivity, and reduce dependence on manual labour. This trend is contributing to the growing demand for tractors, harvesters, seeders, transplanter, and other farm machinery across major agricultural markets

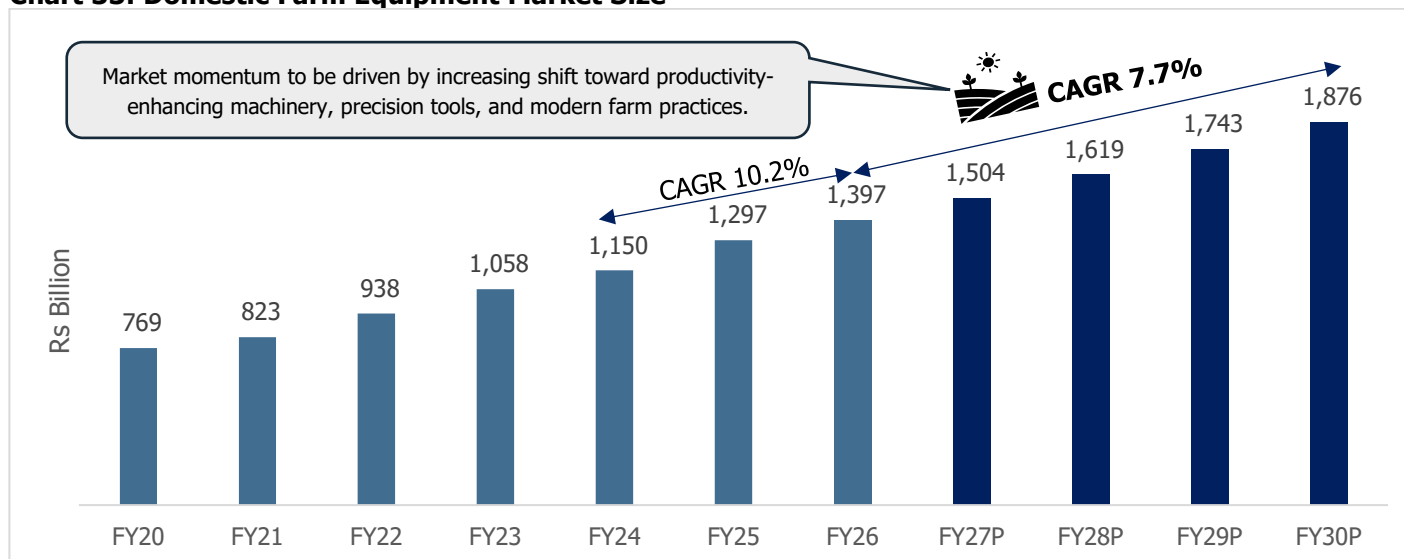
3.2 Domestic Farm Equipment Market

3.2.1 Industry Overview & Market Size

The domestic farm equipment market in India expanded from Rs. 769 billion in FY20 to Rs. 1,397 billion in FY26, registering a robust CAGR of ~10.5 % over FY20–FY26. This rapid expansion was driven by accelerated mechanization, strong tractor demand, government support (subsidies, credit access, custom-hire and FPO promotion), and rising adoption of precision implements and irrigation equipment in agriculture.

Going forward, the market is expected to grow to Rs. 1,876 billion by FY30, at a CAGR of 7.7% from FY26-FY30. The sustained market growth will be sustained by continued mechanisation in smallholder regions, increased spend on smart implements and irrigation, value-added post-harvest investments, and expanding financing/leasing models. India's farm equipment market is transitioning from a high-growth adoption phase into a steadier, technology-led expansion driven by replacement demand and precision agriculture.

Chart 33: Domestic Farm Equipment Market Size



Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

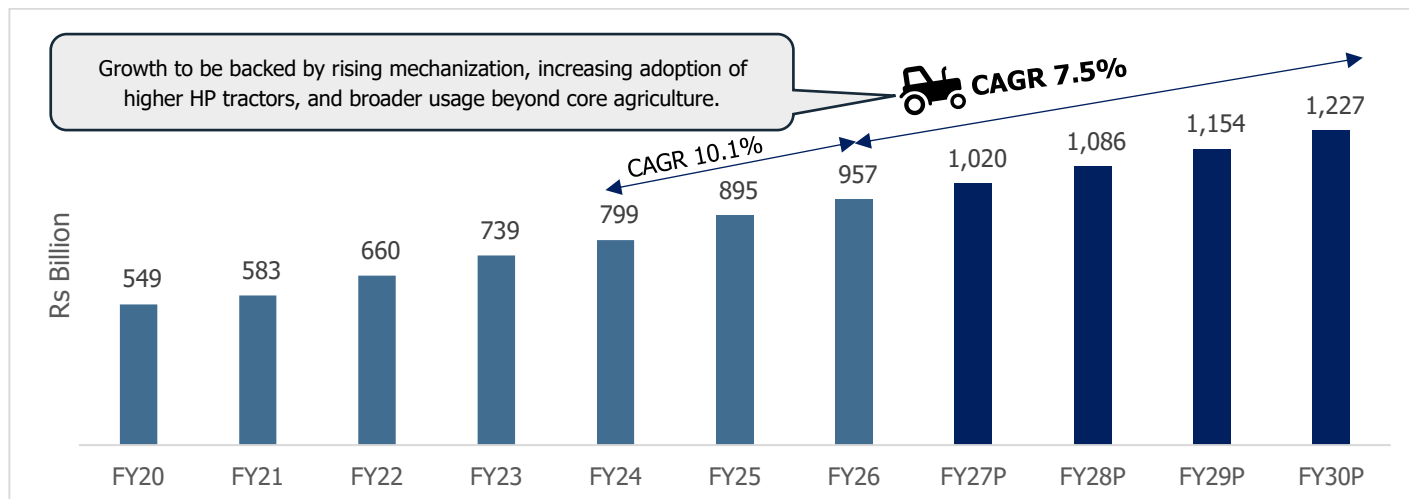
Note: Market size data is including tractors and total agri implements

3.2.2 Domestic Farm Equipment Market by Product Type

3.2.2.1 Tractors

India's domestic tractor segment has shown steady expansion from Rs. 354 billion in FY20 to Rs. 636 billion in FY26, driven by sustained mechanization demand, rising replacement cycles, and greater penetration in non-agricultural applications such as haulage and construction support. Despite periodic fluctuations in rural sentiment, the segment has maintained a resilient growth trajectory supported by improved farm incomes, government-led agri mechanization programs, and expanding credit availability.

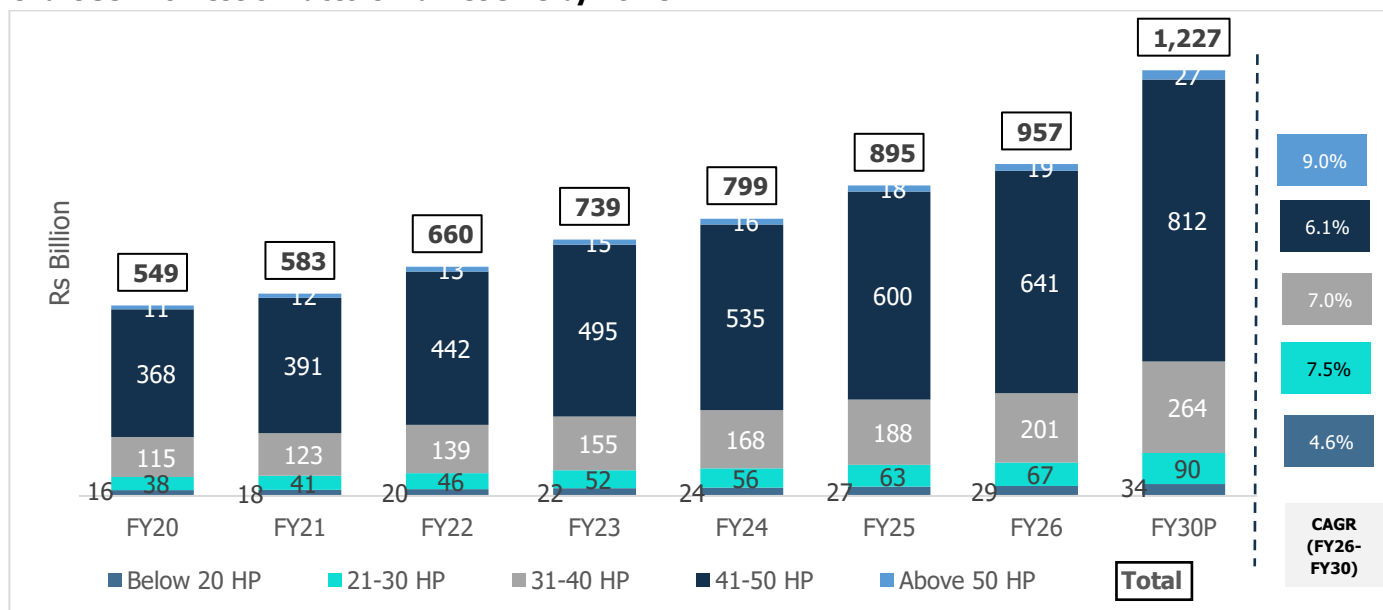
Going forward, the tractor market is projected to grow at a CAGR of 7.5% from FY26 to FY30, reaching an estimated Rs. 849 billion by FY30. This outlook is backed by continued adoption of higher horsepower models, productivity-oriented technology upgrades, deeper penetration in semi-mechanized regions, and broader use cases beyond farming, ensuring sustained long-term demand.

Chart 34: Domestic Tractors Market Size


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.1.1 Domestic Tractors Market by Power

The domestic tractor market is projected to grow from Rs. 957 billion in FY26 to Rs. 1,227 billion by FY30, representing a CAGR of approximately 6.4%. The 41–50 HP segment will continue to dominate the market, increasing from Rs. 641 billion in FY26 to Rs. 812 billion by FY30, at a CAGR of 6.1%. The 31–40 HP segment is expected to grow from Rs. 201 billion to Rs. 264 billion, registering a CAGR of 7.0%. Among the smaller categories, the Above 50 HP segment is projected to grow the fastest at 9.0% CAGR, followed by the 21–30 HP segment at 7.5%, while the Below 20 HP segment is expected to grow at 4.6%. Overall, the market will remain concentrated in the 31–50 HP range, which is expected to account for approximately 88% of the domestic tractor market by FY30, alongside a gradual shift toward higher-powered tractors.

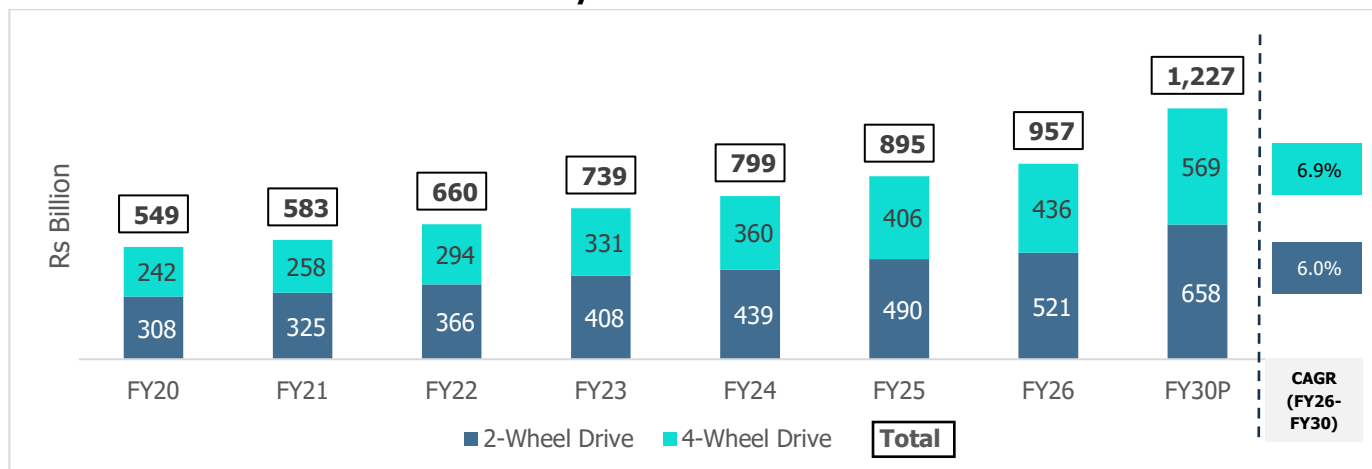
Chart 35: Domestic Tractors Market Size by Power


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.1.2 Domestic Tractors Market by Wheel

The domestic farm tractor equipment industry is projected to grow from Rs. 957 billion in FY26 to Rs. 1,227 billion by FY30, registering a CAGR of 6.4%. The 2-wheel drive segment will remain the largest category, increasing from Rs. 521 billion in FY26 to Rs. 658 billion by FY30 at a CAGR of 6.0%. Meanwhile, the 4-wheel drive segment is expected to grow faster at 6.9% CAGR, expanding from Rs. 436 billion to Rs. 569 billion during the same period. Consequently, the share of 4-wheel drive tractors is projected to increase marginally from approximately 45.6% in FY26 to 46.4% by FY30, indicating a gradual shift toward 4-wheel drive models, while 2-wheel drive tractors continue to account for the majority of the market.

Chart 36: Domestic Tractors Market Size by Wheel



Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

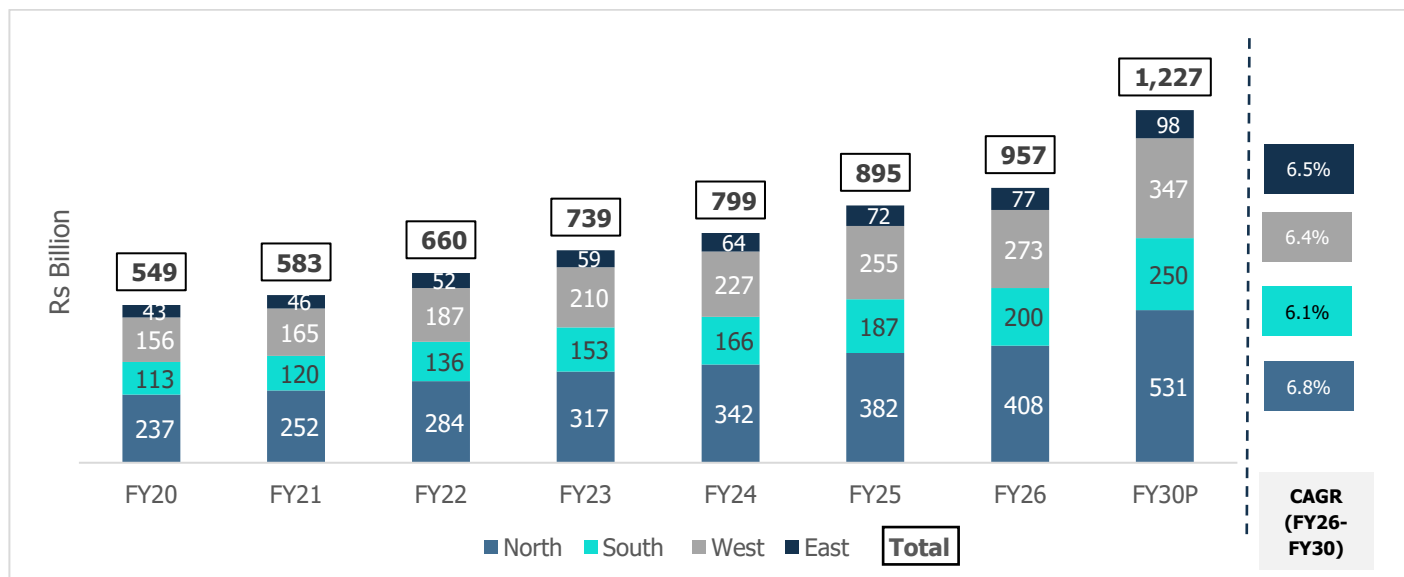
3.2.2.1.3 Domestic Tractors Market by Region

The domestic tractor market is projected to grow from Rs. 957 billion in FY26 to Rs. 1,227 billion by FY30, registering a CAGR of 6.4%. Growth is expected to remain broad-based across regions, with the North continuing to be the largest market. The North region is projected to expand from Rs. 408 billion in FY26 to Rs. 531 billion by FY30, recording the fastest regional CAGR of 6.8% and contributing approximately 46% of the total incremental market value during the forecast period.

The West region, the second-largest market, is expected to grow from Rs. 273 billion to Rs. 347 billion at a CAGR of 6.4%, while the South region is projected to increase from Rs. 200 billion to Rs. 250 billion at a CAGR of 6.1%. The East region, although the smallest market, is expected to expand from Rs. 77 billion to Rs. 98 billion, registering a CAGR of 6.5%.

Overall, the regional market mix is expected to remain broadly stable through FY30. The North is projected to marginally increase its share from approximately 43% in FY26 to over 43% in FY30, supported by growth ahead of the overall industry. The West is expected to contribute around 28%, followed by the South at approximately 20% and the East at around 8%. The outlook indicates that the North and West will continue to account for more than 70% of the domestic tractor market, while relatively balanced growth across all four regions supports the industry's expansion through FY30.

Chart 37: Domestic Tractors Market Size by Region



Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

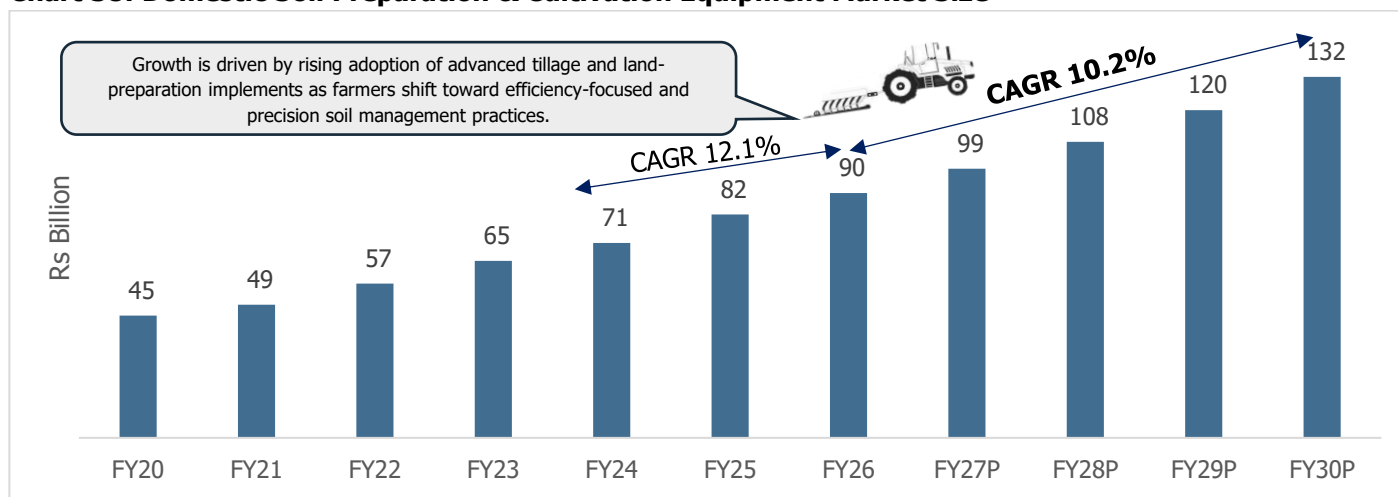
3.2.2.2 Soil Preparation & Cultivation Equipment

India's soil preparation and cultivation equipment market has shown a stable upward trajectory through FY20–FY26, supported by the need for

faster and more uniform land preparation as farms increasingly adopt modern agronomic practices. The demand for cultivators, rotary tillers, power harrows, and other soil-working implements has been boosted by rising labor shortages, higher cost of manual field preparation, and the expanding use of tractors across regions.

From FY26 to FY30, the segment is projected to grow at a healthy 10.2% CAGR, reflecting a structural shift toward mechanized, precision-based soil management. Farmers are investing more in equipment that enables better soil aeration, moisture retention, and seedbed uniformity factors that directly influence yield outcomes. Additionally, government mechanization schemes, custom-hiring centers, and the penetration of multi-purpose implements are further strengthening long-term growth momentum in this category.

Chart 38: Domestic Soil Preparation & Cultivation Equipment Market Size



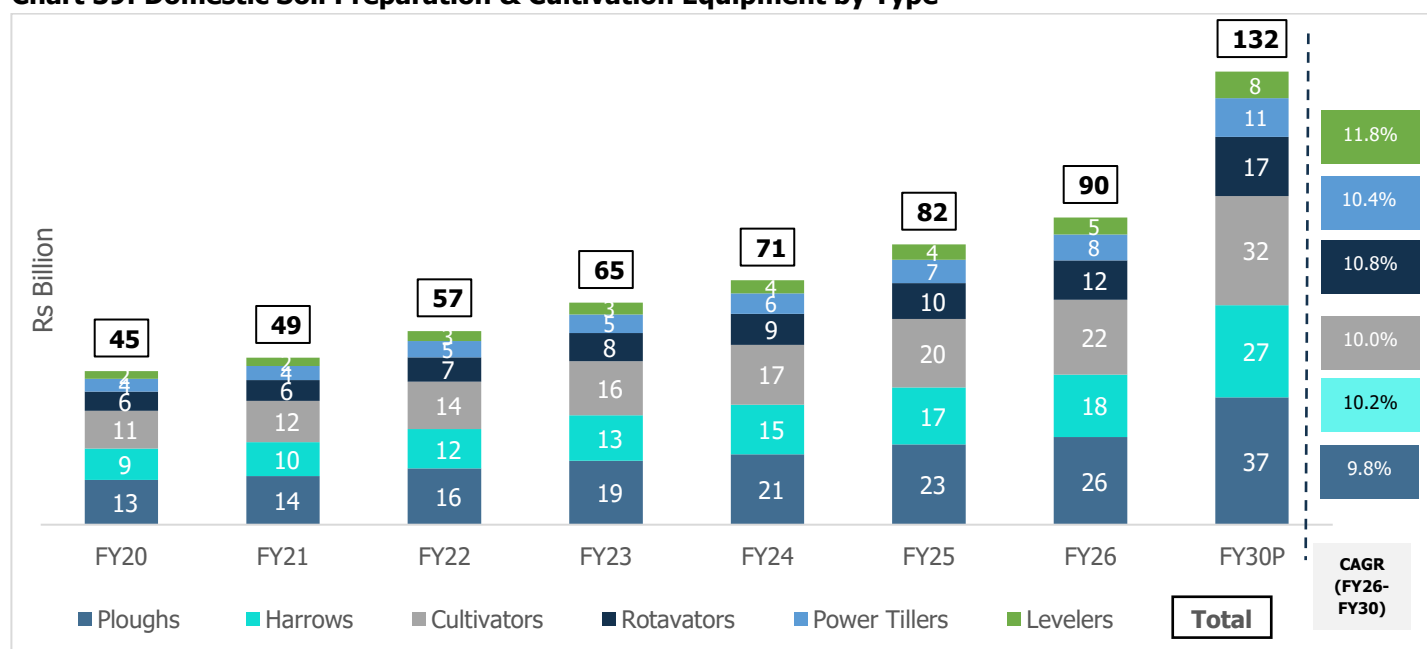
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.2.1 Domestic Soil Preparation & Cultivation Equipment Market by Type

The domestic soil preparation and cultivation equipment market is projected to grow from Rs. 90 billion in FY26 to Rs. 132 billion by FY30, registering a CAGR of approximately 10.0%. Ploughs will continue to represent the largest product category, expanding from Rs. 26 billion in FY26 to Rs. 37 billion by FY30 at a CAGR of 9.8%. Cultivators, the second-largest category, are expected to grow from Rs. 22 billion to Rs. 32 billion at a CAGR of 10.0%, while harrows are projected to increase from Rs. 18 billion to Rs. 27 billion at a CAGR of 10.2%.

Among the smaller categories, levelers are expected to record the fastest growth at 11.8% CAGR, increasing from Rs. 5 billion in FY26 to Rs. 8 billion by FY30. Rotavators are projected to grow from Rs. 12 billion to Rs. 17 billion at a CAGR of 10.8%, while power tillers are expected to increase from Rs. 8 billion to Rs. 11 billion at a CAGR of 10.4%. Overall, growth is expected to remain broad-based across equipment types, with ploughs, cultivators and harrows collectively continuing to account for more than 70% of the market by FY30.

Chart 39: Domestic Soil Preparation & Cultivation Equipment by Type

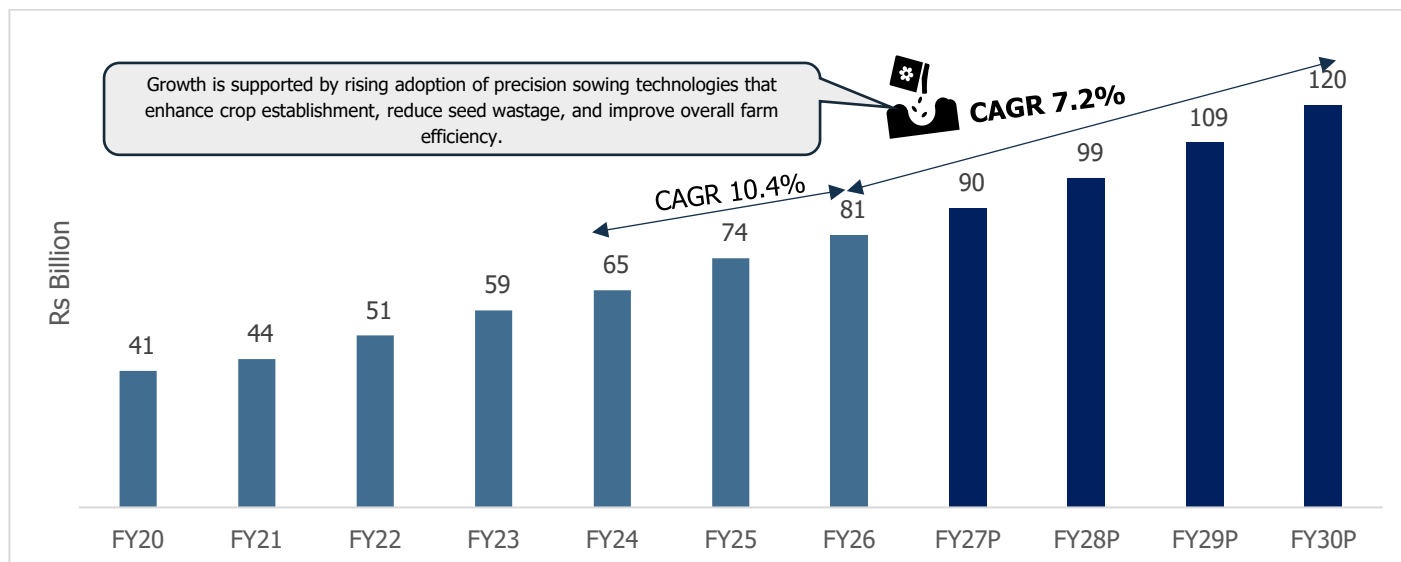


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.3 Sowing and Planting Equipment

India's sowing and planting equipment market has expanded steadily from Rs. 79 billion in FY20 to Rs. 145 billion in FY26, supported by rising mechanization, greater adoption of precision seeding tools, and the push toward timely, uniform crop establishment. Looking ahead, the segment is projected to grow at a 7.2% CAGR between FY26 and FY30, reaching Rs. 191 billion by FY30, driven by increasing demand for higher productivity, reduction in seed wastage, and wider penetration of Seeders, planters, and precision sowing technologies across major crop-growing regions.

Chart 40: Domestic Sowing and Planting Equipment

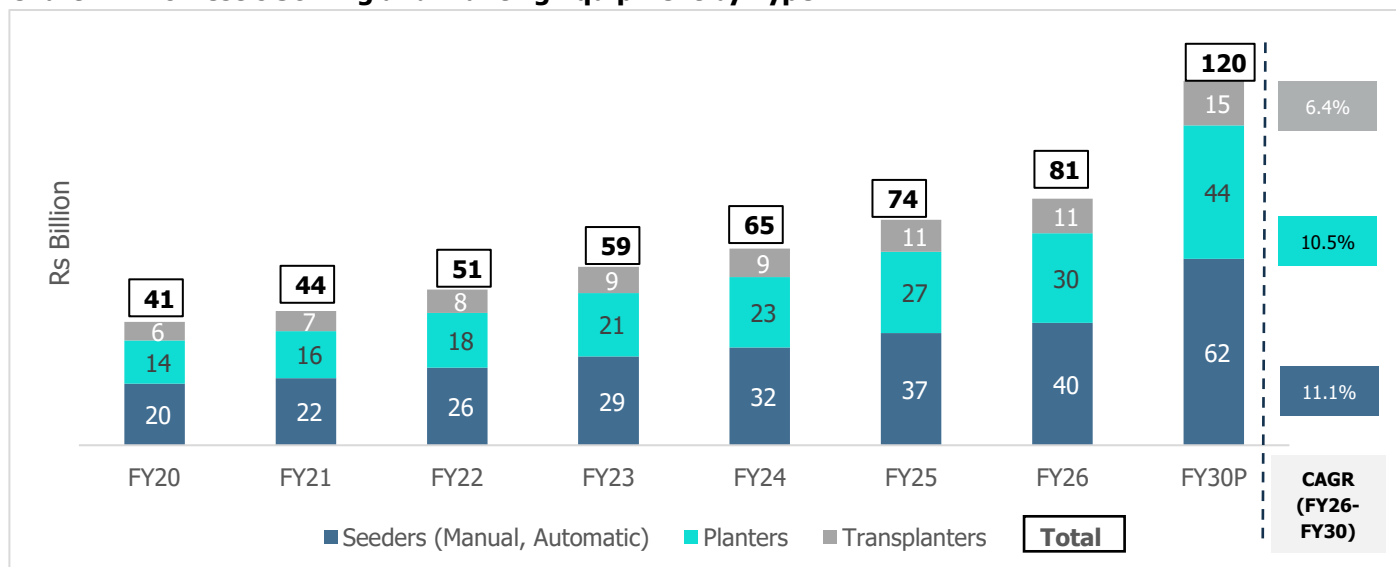


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.3.1 Domestic Sowing and Planting Equipment Market by Type

The domestic sowing and planting equipment market is projected to grow from Rs. 81 billion in FY26 to Rs. 121 billion by FY30, driven by increasing adoption across all major equipment categories. Seeders, including manual and automatic variants, will remain the largest segment, expanding from Rs. 40 billion in FY26 to Rs. 62 billion by FY30 and accounting for approximately 51% of the market. Planters are expected to remain the second-largest category, increasing from Rs. 30 billion to Rs. 44 billion, while transplanter are projected to grow from Rs. 11 billion to Rs. 15 billion.

Chart 41: Domestic Sowing and Planting Equipment by Type



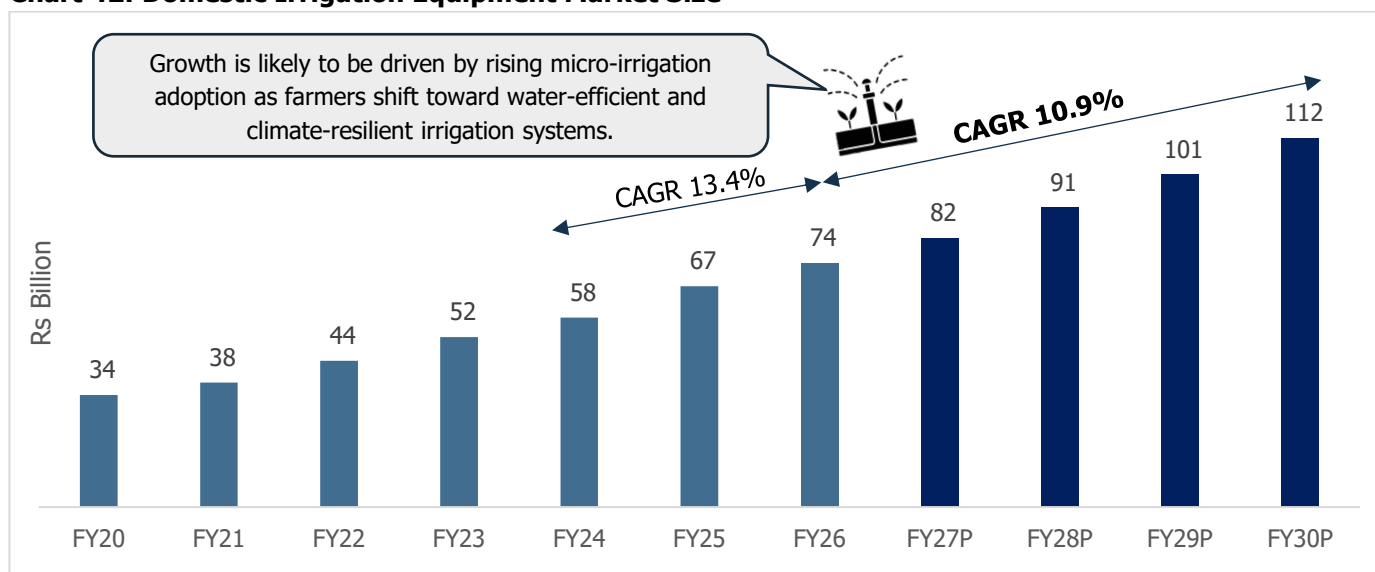
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.4 Irrigation Equipment

The irrigation equipment market has demonstrated strong, structural growth expanding from Rs. 34 billion in FY20 to Rs. 74 billion in FY26 as water scarcity, erratic monsoons, and rising input costs push farmers toward precision irrigation. This shift has been reinforced by large-scale government initiatives such as PMKSY and state-level micro-irrigation subsidies, which have accelerated adoption of drip, sprinkler, and automated irrigation systems, particularly in water-intensive and high-value crops.

From FY26 to FY30, the market is projected to grow at a 10.9% CAGR, reaching Rs. 112 billion. The next phase of growth will be driven by penetration into under-irrigated regions, rising horticulture acreage, integration of IoT-enabled smart irrigation controllers, and an increasing focus on water-use efficiency due to tightening climatic pressures. As farmers move toward sustainable and resource-efficient practices, irrigation equipment is transitioning from a productivity tool to a climate-resilience necessity.

Chart 42: Domestic Irrigation Equipment Market Size



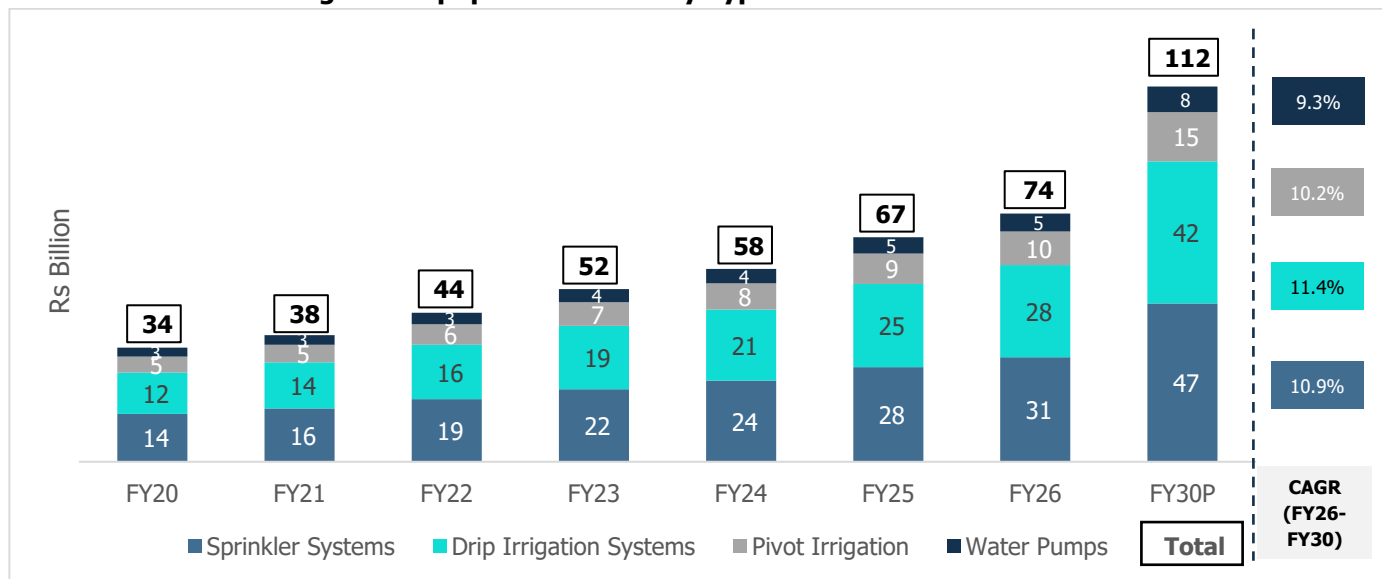
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.4.1 Domestic Irrigation Equipment Market by Type

The domestic irrigation equipment market is projected to grow from Rs. 74 billion in FY26 to approximately Rs. 112 billion by FY30. Sprinkler systems will remain the largest category, expanding from Rs. 31 billion in FY26 to Rs. 47 billion by FY30 at a CAGR of 10.9% and accounting for approximately 42% of the overall market by FY30.

Drip irrigation systems are expected to remain the second-largest segment, increasing from Rs. 28 billion to Rs. 42 billion during the forecast period. Together, sprinkler and drip irrigation systems are projected to account for approximately 79% of the market by FY30, reflecting the continued importance of efficient and targeted irrigation solutions.

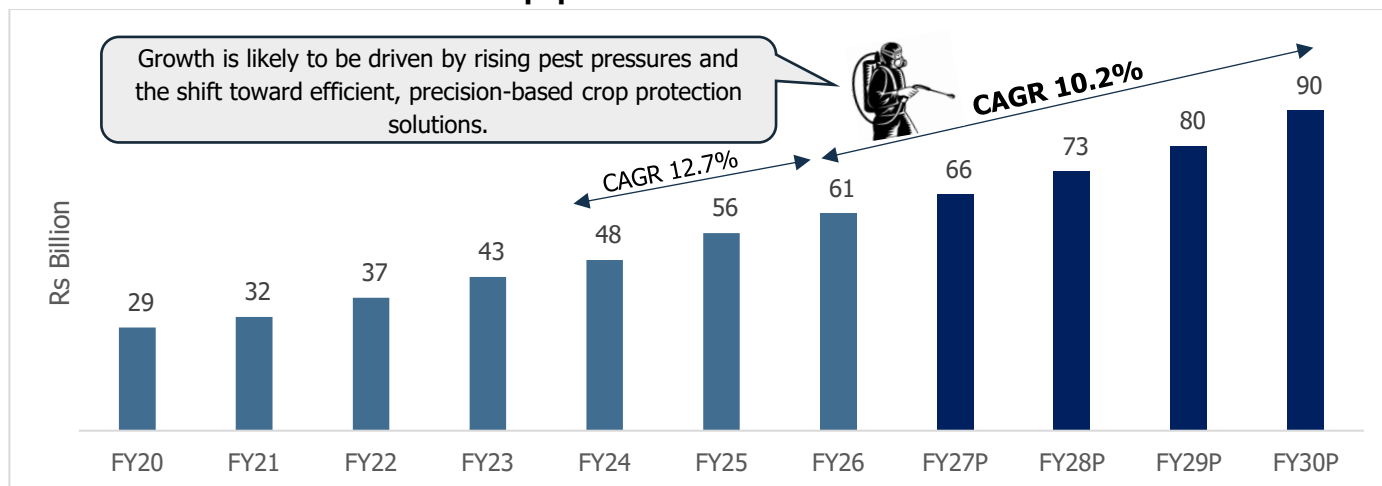
Among the smaller categories, pivot irrigation equipment is projected to expand from Rs. 10 billion in FY26 to Rs. 15 billion by FY30, while water pumps are expected to grow from Rs. 5 billion to Rs. 8 billion. Overall, the market is expected to add approximately Rs. 38 billion between FY26 and FY30, with sprinkler and drip irrigation systems contributing nearly 79% of the incremental market opportunity.

Chart 43: Domestic Irrigation Equipment Market by Type

Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.5 Plant Protection Equipment

The domestic plant protection equipment market expanded from Rs. 29 billion in FY20 to Rs. 61 billion in FY26, supported by rising pest pressures and the growing adoption of efficient, precision-based crop protection solutions. The market is projected to maintain its growth momentum, increasing to Rs. 90 billion by FY30 at a CAGR of 10.2%. This represents an incremental market opportunity of approximately Rs. 29 billion between FY26 and FY30, driven by increasing farm mechanisation, the need to improve application efficiency and the gradual shift toward advanced plant protection equipment. While the pace of growth is expected to moderate compared with the historical period, the market is likely to continue recording strong double-digit expansion through FY30.

Chart 44: Domestic Plant Protection Equipment Market Size

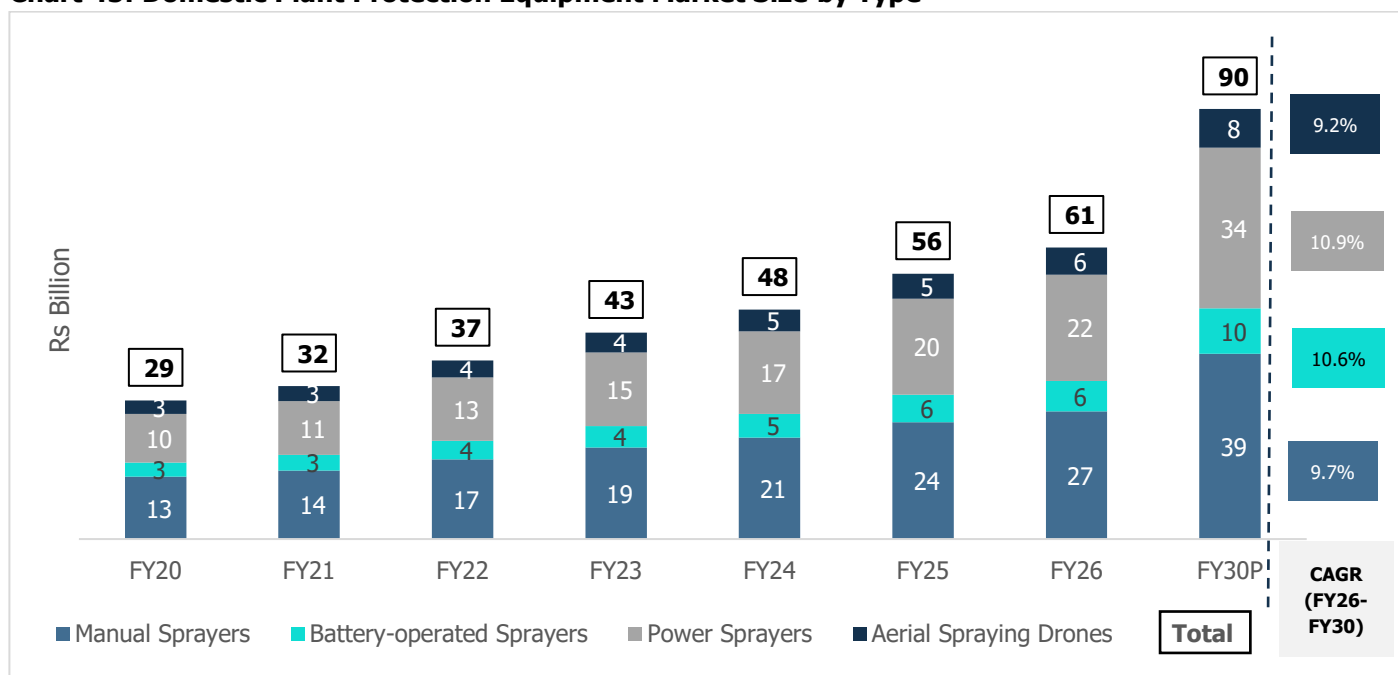
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.5.1 Domestic Plant Protection Equipment Market by Type

The domestic plant protection equipment market is projected to grow from Rs. 61 billion in FY26 to Rs. 91 billion by FY30, supported by increasing adoption of mechanised and efficient spraying solutions. Manual sprayers will remain the largest category, expanding from Rs. 27 billion to Rs. 39 billion and accounting for approximately 43% of the market by FY30. Power sprayers, the second-largest segment, are expected to grow from Rs. 22 billion in FY26 to Rs. 34 billion by FY30, contributing the largest incremental opportunity after manual sprayers.

Battery-operated sprayers are projected to increase from Rs. 6 billion to Rs. 10 billion, supported by the transition toward portable and labour-efficient equipment. Aerial spraying drones are expected to remain a relatively small but emerging category, growing from Rs. 6 billion in FY26 to Rs. 8 billion by FY30. Overall, manual and power sprayers are projected to collectively account for approximately 80% of the plant protection equipment market by FY30, maintaining their dominance despite increasing adoption of battery-operated and drone-based solutions.

Chart 45: Domestic Plant Protection Equipment Market Size by Type

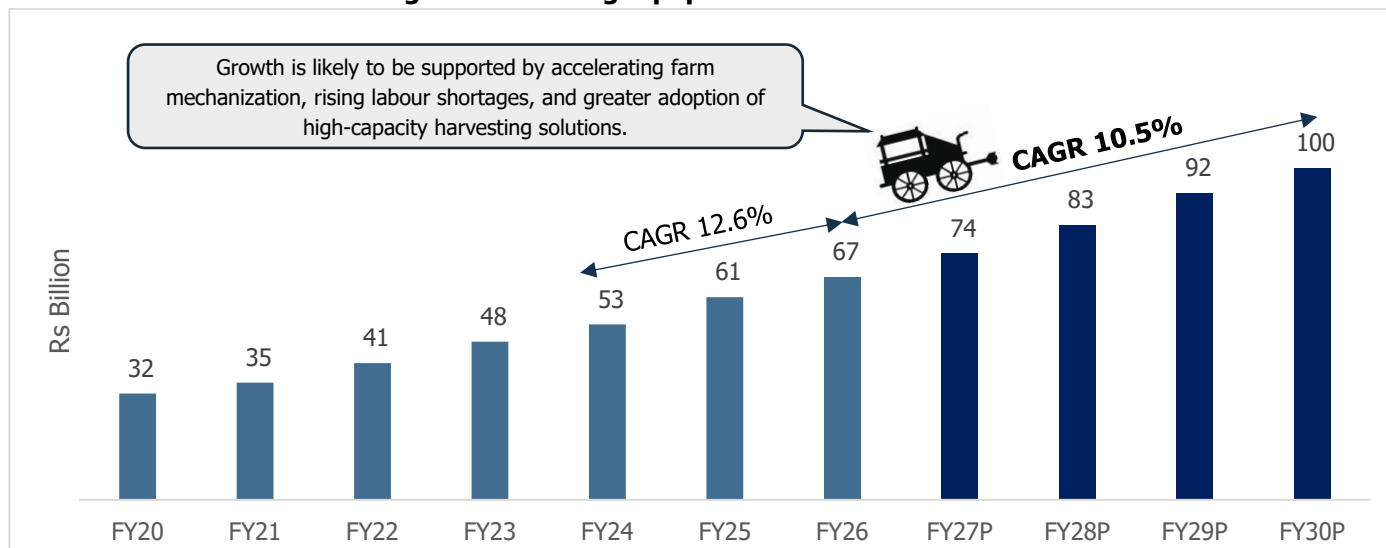


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.6 Harvesting and Threshing Equipment

The harvesting and threshing equipment market is projected to expand from Rs 32 billion in FY26 to Rs 100 billion by FY30, delivering a healthy 10.5% CAGR. Growth is supported by persistent rural labour shortages, rising wage costs, and the push toward time-efficient harvesting during narrow crop windows.

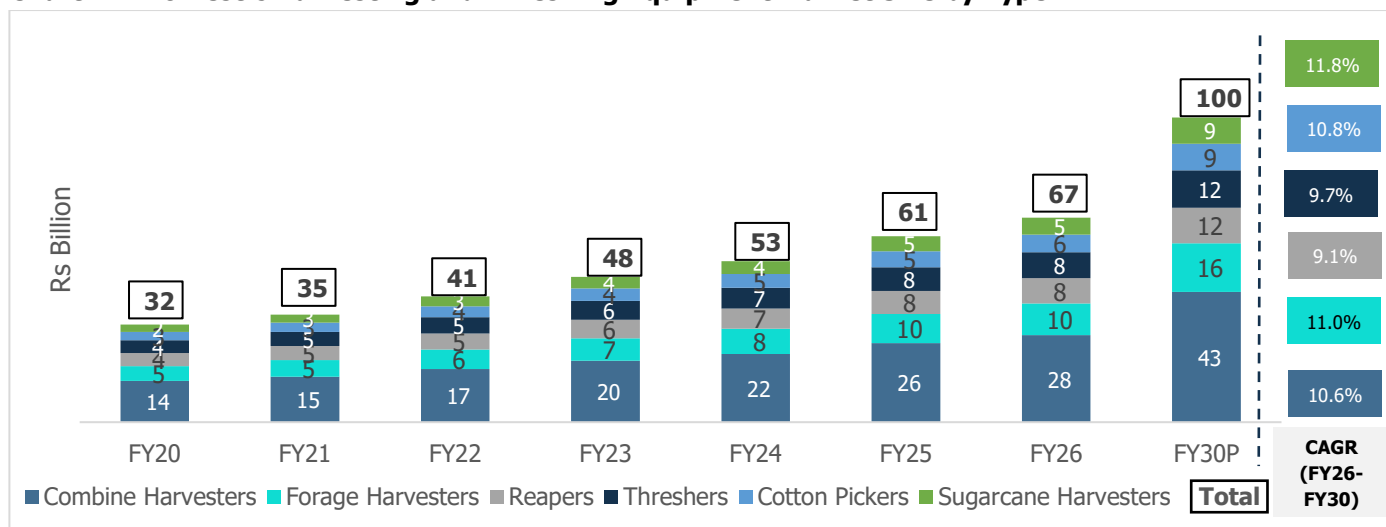
The consistent growth reflects both new adoption in emerging Agri regions and a strengthening replacement cycle in mature markets. Increasing mechanization among small and mid-sized farmers supported by custom hiring centres, state-level subsidy programs, and demand for higher field productivity is accelerating the shift toward more reliable, mid-capacity harvesters and threshers. Overall, the segment's upward curve signals a long-term structural move toward faster, cost-efficient, and technology-supported harvesting operations.

Chart 46: Domestic Harvesting and Threshing Equipment Market Size

Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.6.1 Domestic Harvesting and Threshing Equipment Market by Type

The domestic harvesting and threshing equipment market is projected to grow from Rs. 65 billion in FY26 to Rs. 101 billion by FY30, representing an implied CAGR of approximately 11.6%. Combine harvesters will remain the largest category, increasing from Rs. 28 billion to Rs. 43 billion and accounting for approximately 43% of the market by FY30. Forage harvesters, the second-largest segment, are expected to expand from Rs. 10 billion in FY26 to Rs. 16 billion by FY30, supported by increasing mechanisation of fodder harvesting activities. Reapers and threshers are each projected to grow from Rs. 8 billion to Rs. 12 billion, collectively contributing approximately 24% of the market by FY30. Among the smaller categories, cotton pickers are expected to increase from Rs. 6 billion to Rs. 9 billion, while sugarcane harvesters are projected to grow from Rs. 5 billion to Rs. 9 billion, making sugarcane harvesters the fastest-growing category based on the provided values.

Chart 47: Domestic Harvesting and Threshing Equipment Market Size by Type

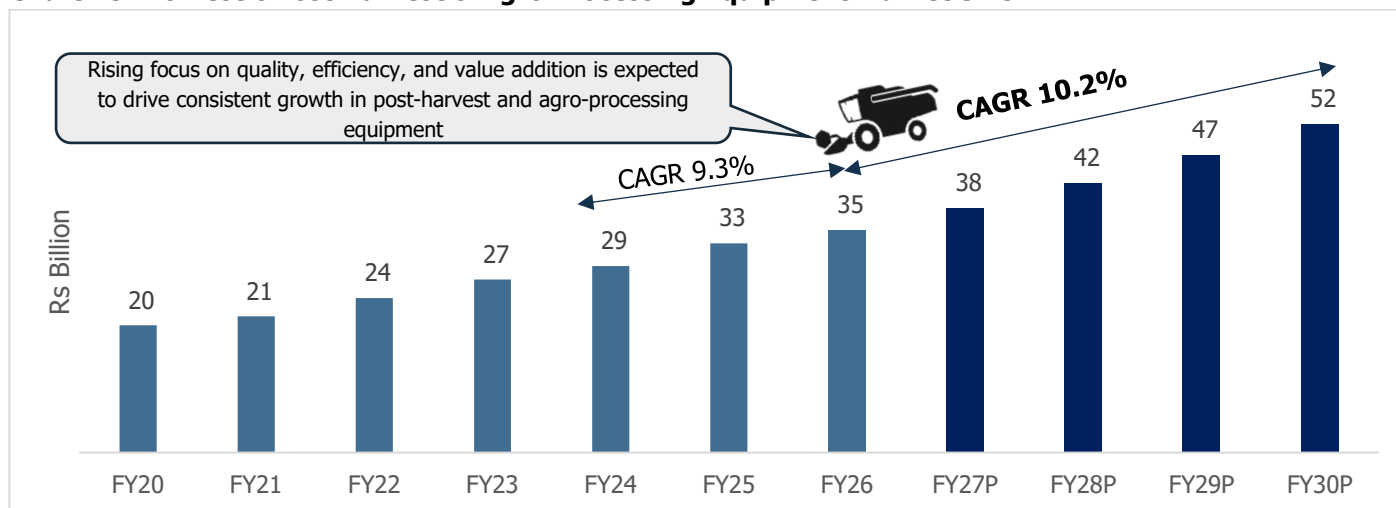
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.7 Post Harvest & Agro Processing Equipment

The post-harvest and Agro-processing equipment market has expanded consistently, rising from Rs 20 billion in FY20 to Rs 35 billion in FY26, driven by growing awareness around quality preservation, reduction of farm-level losses, and the rising role of FPOs and micro-processors in rural value chains.

Going further, the segment continues its upward trajectory, reaching Rs 52 billion at an 10.2% CAGR until FY30. Growth is further supported by increasing penetration of modern processing units, expansion of horticulture and high-value crops, and stronger government incentives through food processing schemes and post-harvest infrastructure missions. The trend reflects a clear shift from mere production to systematic value addition and supply-chain efficiency across India's agriculture ecosystem.

Chart 48: Domestic Post Harvest & Agro Processing Equipment Market Size



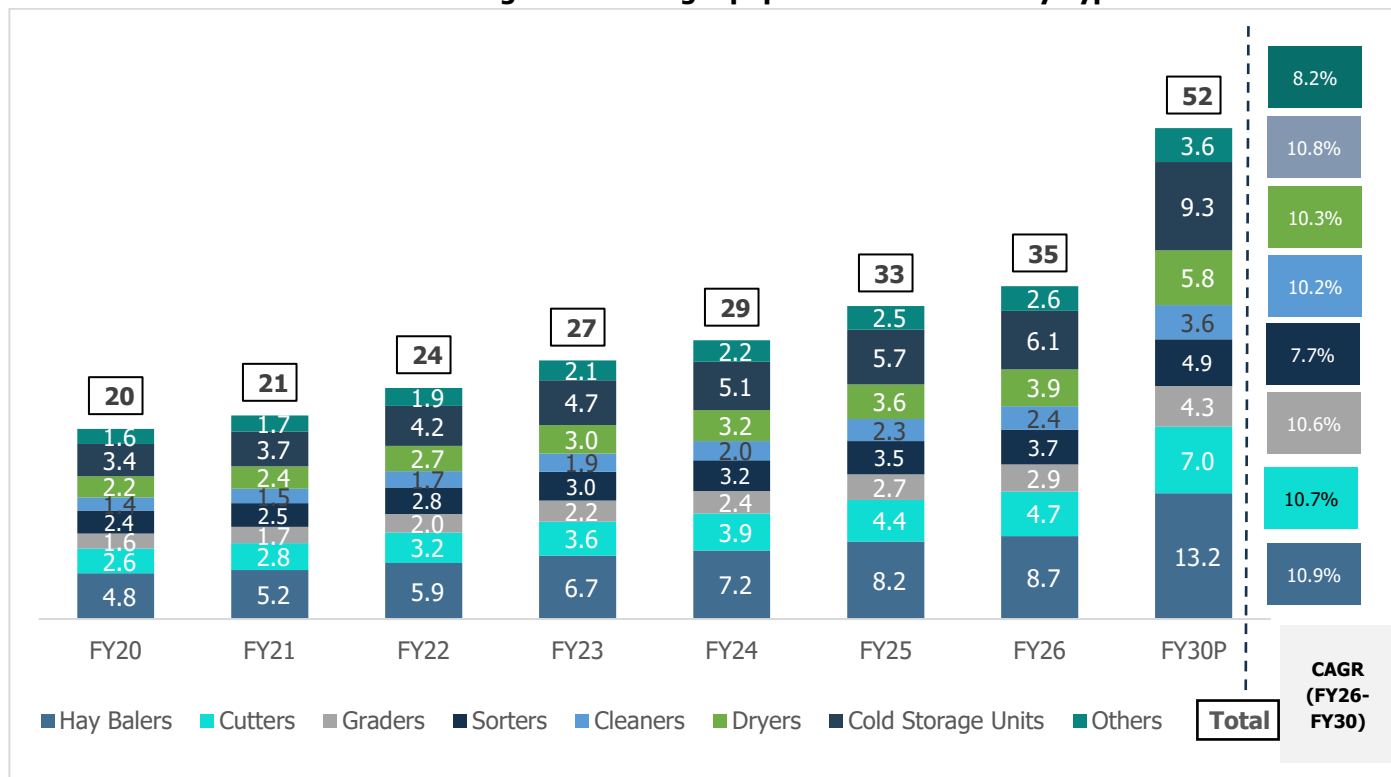
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.7.1 Domestic Post Harvest & Agro Processing Equipment Market by Type

The domestic post-harvest and agro-processing equipment market is projected to grow from Rs. 35 billion in FY26 to Rs. 52 billion by FY30, registering a CAGR of approximately 10.2%. Hay balers will remain the largest equipment category, expanding from Rs. 9 billion to Rs. 13 billion and accounting for approximately 25% of the overall market by FY30. Cold storage units are expected to remain another major category, increasing from Rs. 6 billion in FY26 to Rs. 9 billion by FY30, supported by the growing need to reduce post-harvest losses and improve produce preservation.

Cutters are projected to grow from Rs. 5 billion to Rs. 7 billion, while dryers are expected to increase from Rs. 4 billion to Rs. 6 billion during the forecast period. Sorters are projected to reach Rs. 5 billion by FY30, whereas graders, cleaners and other equipment are each expected to reach approximately Rs. 4 billion.

Overall, the market is expected to add approximately Rs. 17 billion between FY26 and FY30, with growth remaining broad-based across equipment categories. Hay balers and cold storage units are projected to collectively represent approximately 42% of the market by FY30, while increasing adoption of drying, cleaning, grading and sorting solutions is expected to support greater mechanisation across the post-harvest value chain.

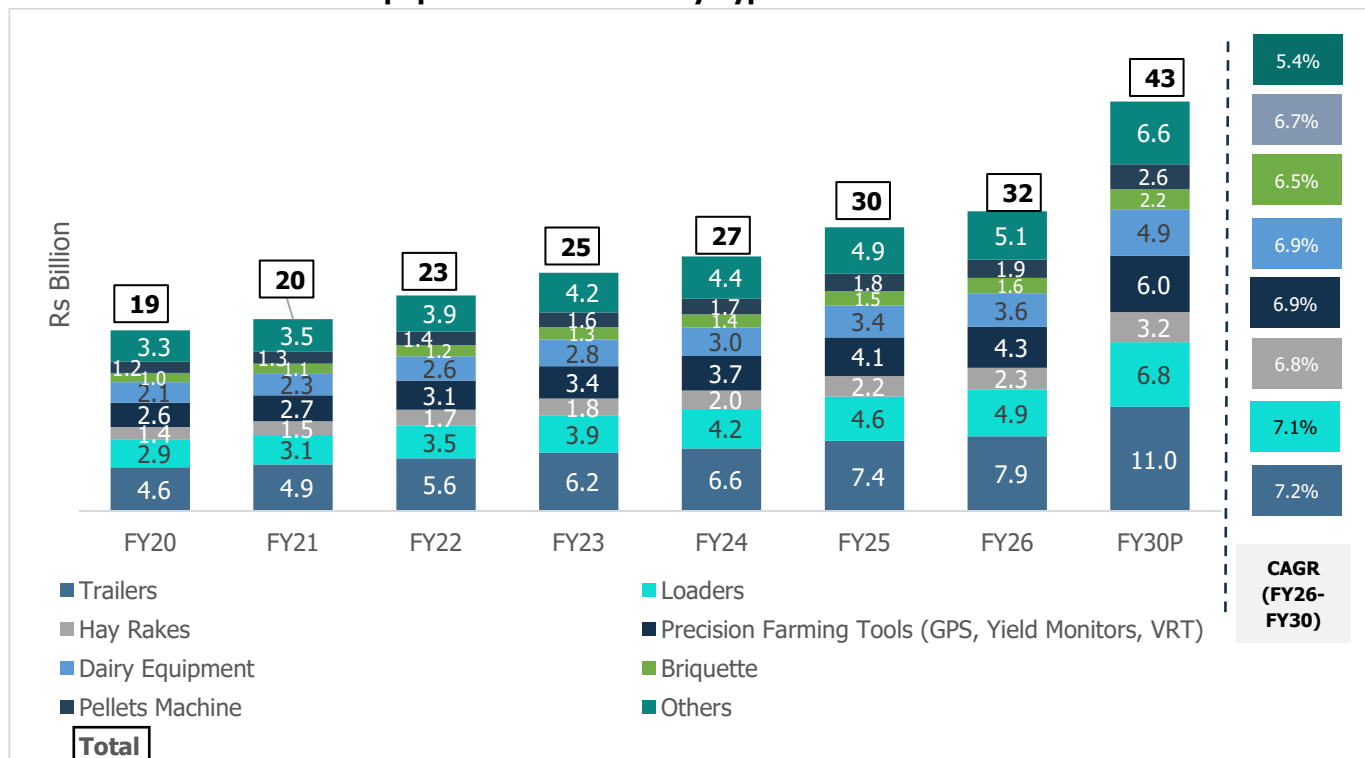
Chart 49: Domestic Post Harvest & Agro Processing Equipment Market Size by Type

Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.2.8 Other Equipment

The "Other Equipment" category shows steady, broad-based expansion, rising from Rs. 32 billion in FY26 to Rs. 43 billion by FY30, driven by gradual mechanization beyond core farming operations. Trailers and loaders remain the dominant contributors, reflecting consistent demand for on-farm transport and material handling.

Precision farming tools GPS devices, yield monitors, and VRT systems advance steadily as digital adoption gains ground among progressive farmers. Dairy equipment and biomass solutions such as briquette and pellet machines grow from smaller bases, supported by diversification into allied Agri-activities and rising emphasis on waste-to-value systems. Overall, the segment's 6.4% CAGR underscores the maturing of India's farm ecosystem, where supportive and efficiency-enhancing tools are becoming integral to daily operations.

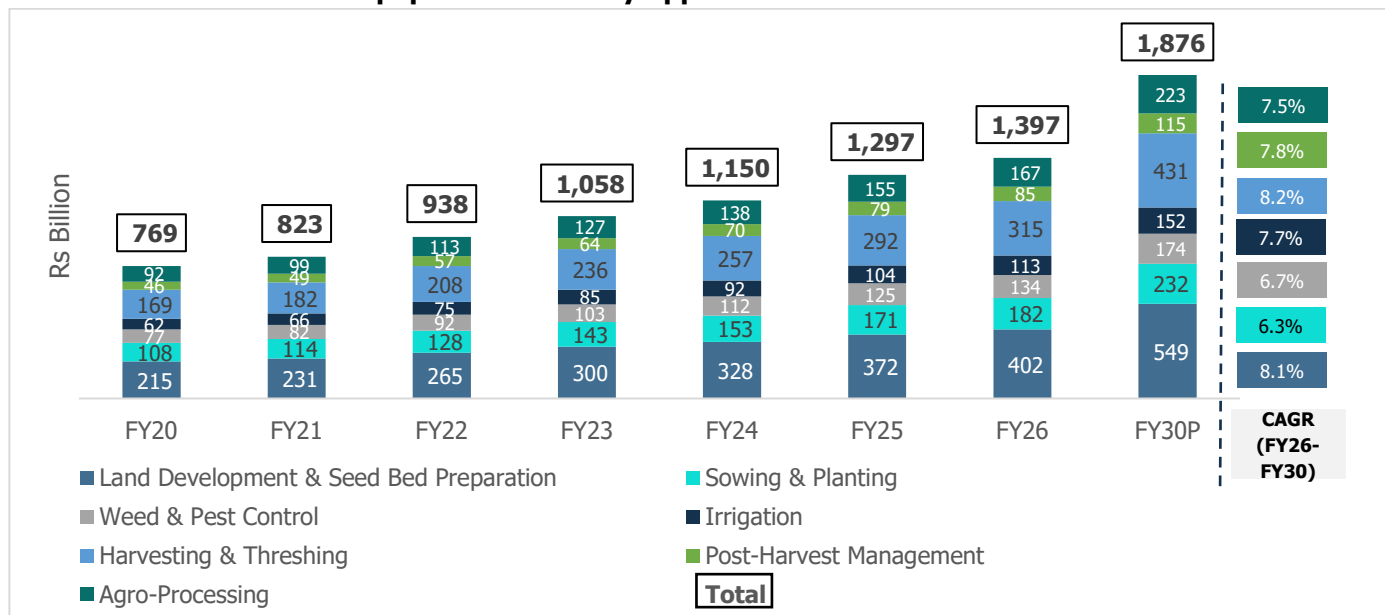
Chart 50: Domestic Other Equipment Market Size by Type


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.3 Domestic Farm Equipment Market Size by Application

The application-wise breakdown reflects a maturing mechanization curve, with Soil preparation & Cultivation and harvesting & threshing emerging as the strongest drivers, as farmers prioritise time-sensitive, high-impact operations where mechanisation delivers immediate efficiency gains. Irrigation and post-harvest management also showcase sustained momentum, aided by rising micro-irrigation penetration, government incentives, and growing awareness around reducing post-harvest losses.

Sowing & planting and weed & pest control continue to expand steadily as semi- and fully automated tools gain traction, supported by higher labour costs and the shift toward input optimisation. Together, the segmentation highlights that growth is no longer concentrated in a few mechanisation stages; instead, demand is broad-based across the farm cycle, signalling a structurally advancing market moving toward precision, productivity, and year-round equipment utilisation.

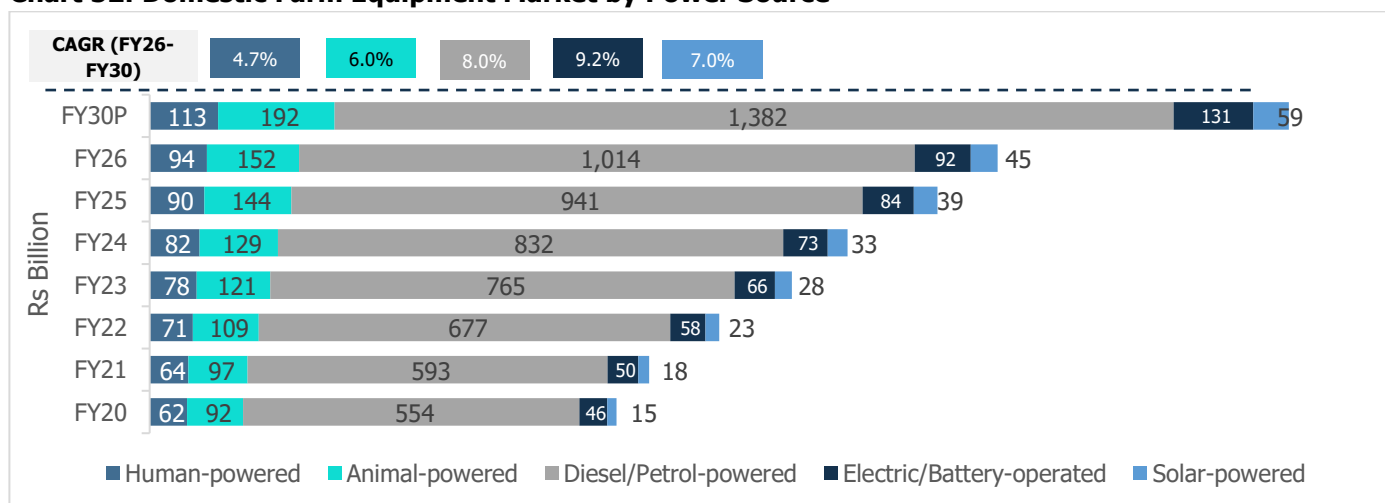
Chart 51: Domestic Farm Equipment Market by Application


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.4 Domestic Farm Equipment Market Size by Power Source

While diesel/petrol-powered equipment remains the dominant category, growing at an 8.0% CAGR until FY30, electric/battery-operated solutions are expanding the fastest at 9.2%, backed by falling battery costs, lower operating expenses, and government schemes promoting low-emission farm mechanisation. Solar-powered equipment also shows strong traction (7.0% CAGR) as policies such as PM-KUSUM, renewable-energy subsidies, and state-level incentives for solar pumps and solar-driven small implements accelerate adoption in rural markets.

This policy push toward sustainability combined with rising fuel prices, higher awareness of lifecycle costs, and expanding rural electrification positions electric and solar-powered equipment as the next wave of mechanisation, especially for small and marginal farmers seeking affordable, low-maintenance options.

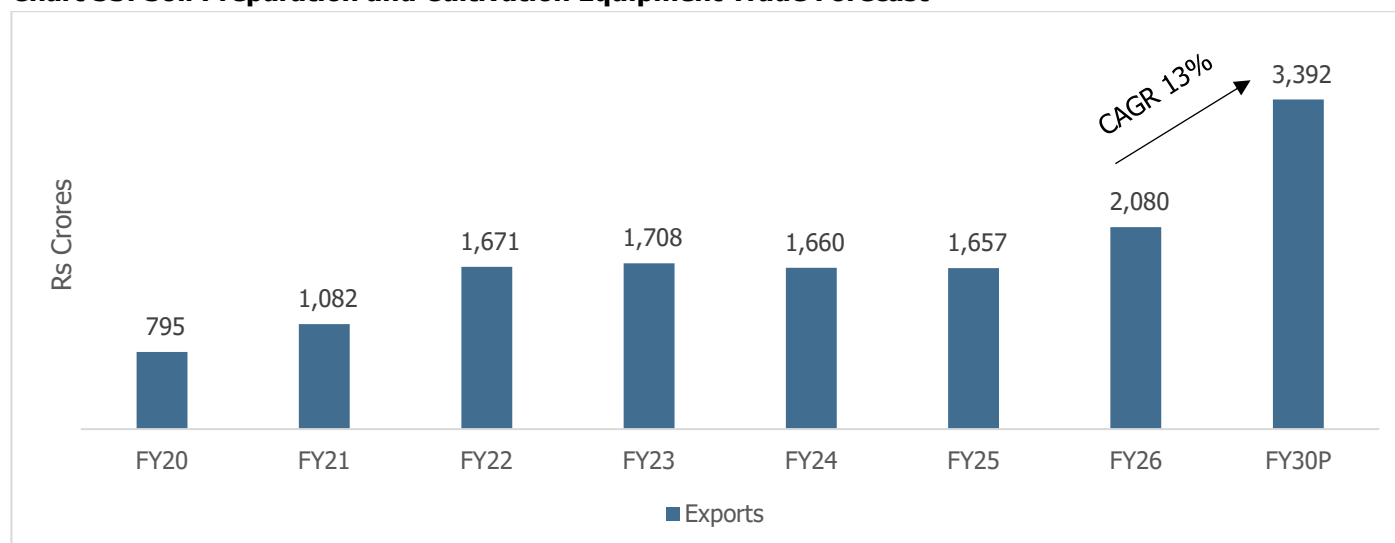
Chart 52: Domestic Farm Equipment Market by Power Source


Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.5 Export / Import of Farm Equipment

Exports are projected to grow from Rs. 2,080 crore in FY26 to Rs. 3,392 crore by FY30, registering a CAGR of approximately 13.0%. Following relatively stable performance during FY23–FY25, exports recovered strongly in FY26 and are expected to maintain steady double-digit growth through FY30. The segment is projected to add approximately Rs. 1,312 crore in export value over the forecast period.

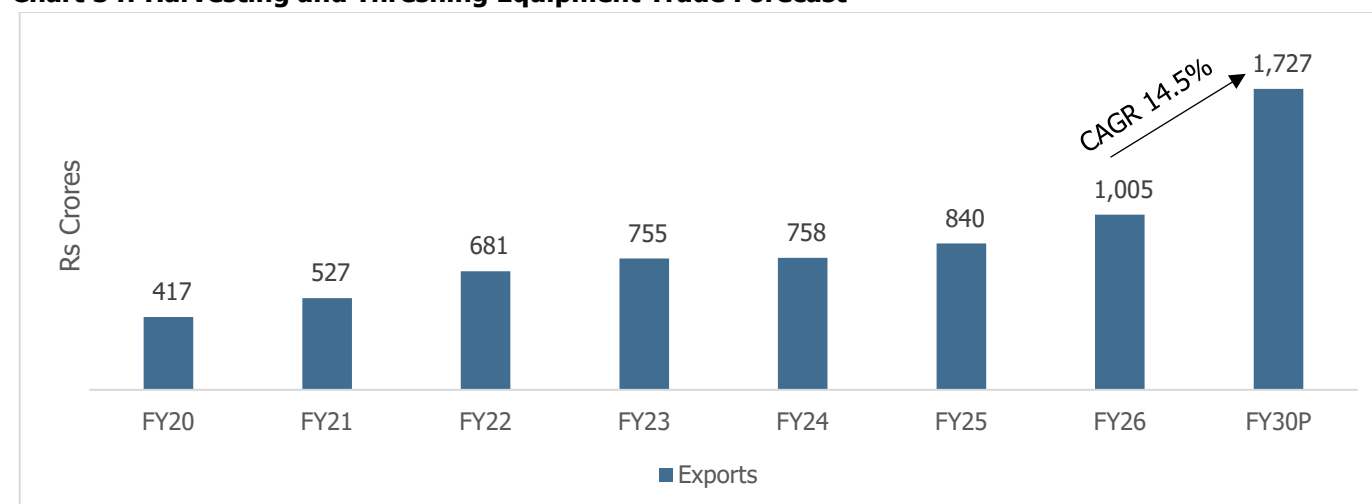
Chart 53: Soil Preparation and Cultivation Equipment Trade Forecast



Source: CareEdge Research & Analysis; P: Projected

Exports are projected to increase from Rs. 1,005 crore in FY26 to Rs. 1,609 crore by FY30, registering a CAGR of approximately 12.5%. The outlook reflects sustained demand in overseas markets, with the segment expected to add approximately Rs. 604 crore in export value between FY26 and FY30.

Chart 54: Harvesting and Threshing Equipment Trade Forecast

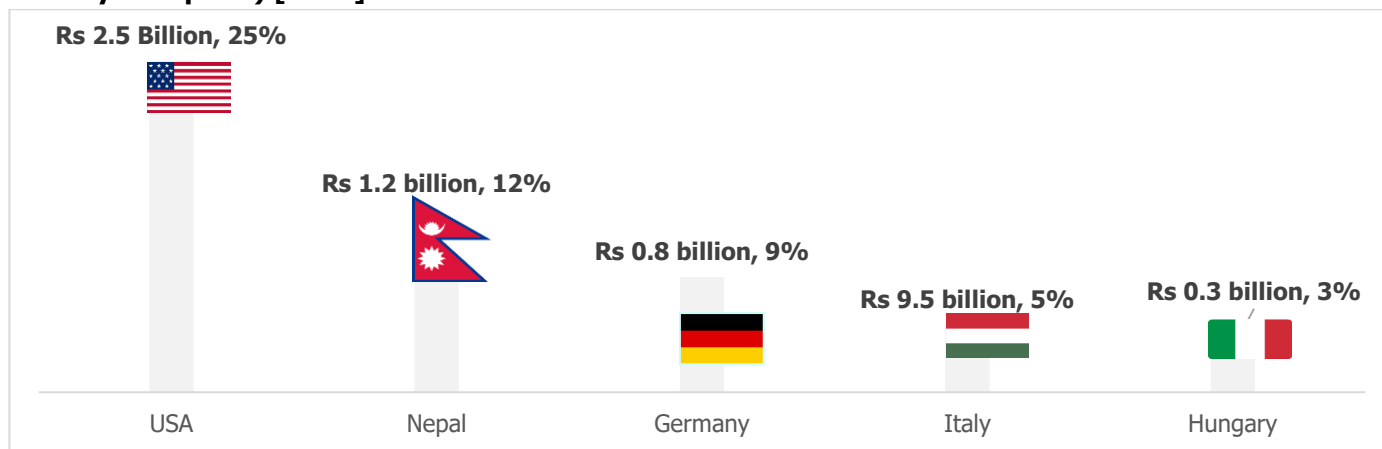


Source: CareEdge Research & Analysis; P: Projected

3.2.6 Top Exporter Countries of Farm Equipment

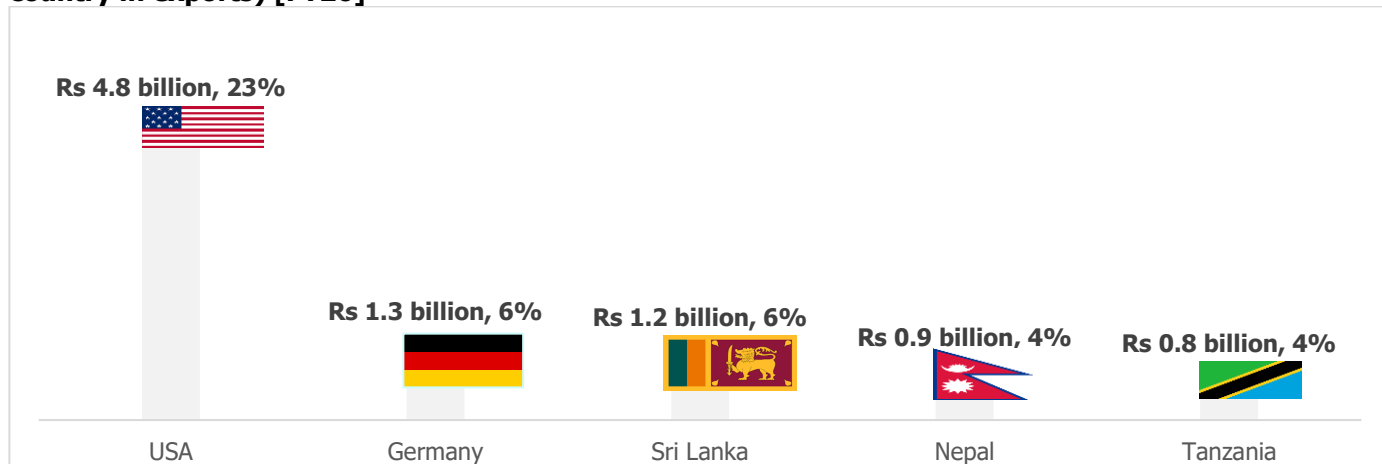
India's export landscape for agricultural machinery under HS 8432 and HS 8433¹ shows a strong orientation toward developed markets as well as neighbouring demand clusters. The United States emerges as the largest buyer across both categories, accounting for 27% of HS 8433 and 23% of HS 8432 exports, highlighting India's competitiveness in mid-to-high-spec farm equipment and parts. European destinations such as Germany, Italy, and Hungary collectively contribute meaningful volumes, signalling India's acceptance in quality-sensitive markets. Simultaneously, regional partners including Nepal, Bangladesh, and Tanzania maintain steady import shares, reflecting India's geographical advantage and sustained demand for cost-efficient machinery in South Asia and Africa.

Chart 55: Top 5 Exporting Countries of Farm Equipment from India for HS 8433 (% denotes share of country in exports) [FY26]



Source: CareEdge Research; % denote share of global exports

Chart 56: Top 5 Exporting Countries of Farm Equipment from India for HS 8432 (% denotes share of country in exports) [FY26]



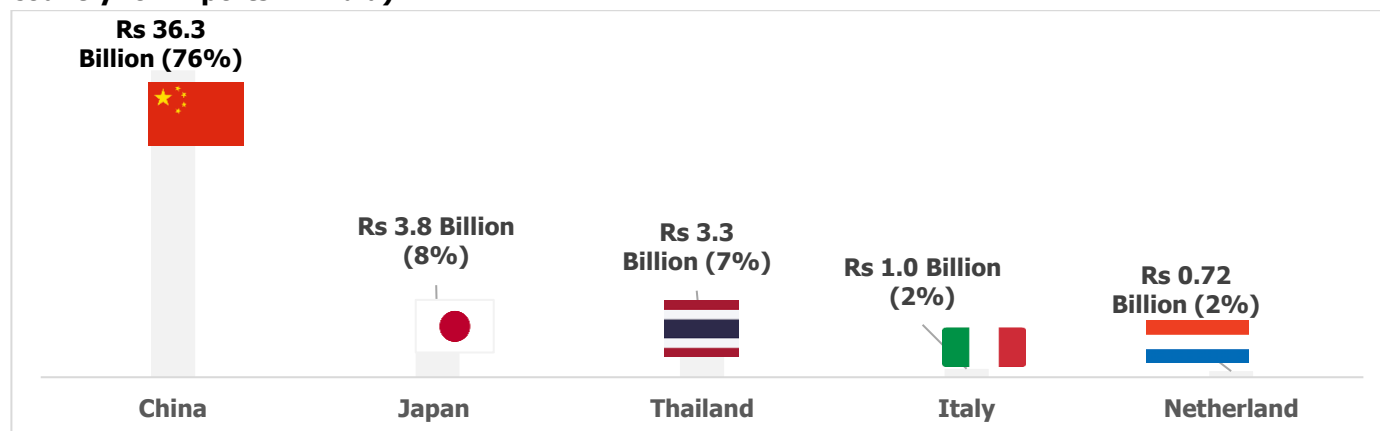
Source: CareEdge Research; % denote share of global exports

¹ HS 8432 covers agricultural machinery used for soil preparation and cultivation, while HS 8433 includes machinery used for harvesting, threshing, and crop cutting operations.

3.2.7 Import of farm equipment by top 5 countries

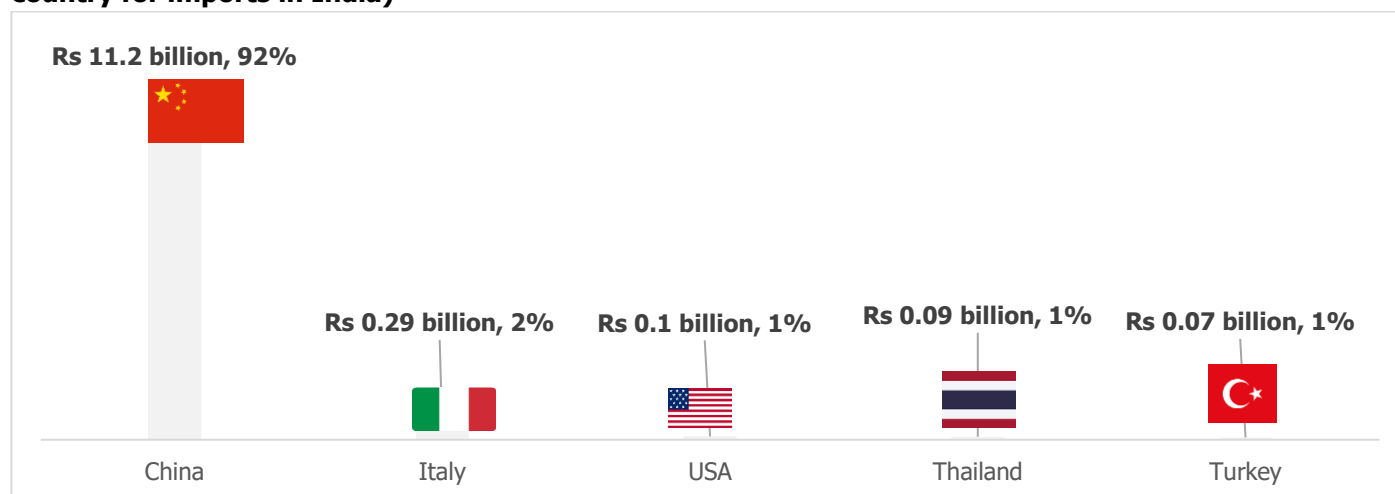
India's import dependency for agricultural machinery under HS 8432 and HS 8433² is overwhelmingly concentrated in a single geography, with China dominating both categories holding 67% of HS 8433 imports and an even stronger 92% share in HS 8432 parts. This reflects India's reliance on Chinese supply chains for cost-efficient components, sub-assemblies, and precision parts critical to domestic machinery manufacturing. Secondary contributors such as Japan, Italy, Thailand, Turkey, and the United States collectively account for relatively small shares, indicating limited diversification and higher sensitivity to disruptions in Chinese manufacturing.

Chart 57: Top 5 Importing Countries of Farm Equipment from India for HS 8433 (% denotes share of country for imports in India)



Source: CareEdge Research; % denote share of domestic imports

Chart 58: Top 5 Importing Countries of Farm Equipment from India for HS 8432 (% denotes share of country for imports in India)



Source: CareEdge Research; % denote share of domestic imports

² HS 8432 covers agricultural machinery used for soil preparation and cultivation, while HS 8433 includes machinery used for harvesting, threshing, and crop cutting operations.

3.2.8 Raw Material Cost Analysis

The cost structure of the farm equipment industry is heavily shaped by commodity-linked inputs, making production economics highly sensitive to global price cycles and supply-chain variability. The following component-wise impact analysis highlights how each raw material category influences cost behaviour, margin stability, and operational decisions within the sector. Together, these insights explain the structural cost drivers that ultimately dictate pricing power and competitive positioning for manufacturers.

Chart 59: Raw Material Cost Impact Analysis

Raw Material	% share	Impact Analysis
 Steel & Metals	40%	- Steel is the dominant cost for OEMs, and global price cycles—driven by Chinese production cuts, iron-ore volatility, and freight swings—cause immediate cost shocks. - Even a 5% change in steel prices shifts total equipment production cost by ~2%, making steel the key driver of quarterly margin variance. - High metal intensity limits design flexibility, as reducing steel usage would compromise structural integrity under BIS/ICAR standards.
 Rubber & Plastics	20%	- Manufacturers are exposed to petrochemical price cycles, with crude-linked polymers (PP, PE, rubber compounds) showing 15–25% annual volatility. - Rubber-heavy wear-and-tear components (seals, hoses, tyres, grips) make cost swings directly impact after-market pricing, forcing OEMs to absorb inflation or risk losing replacement-part market share. - Dependence on imports is high, as 40-50% of specialty rubber grades are still sourced from abroad.
 Electrical/Electronic Parts	10%	- A double-digit share reflects growing electrification in implements (sensors, harnesses, controllers), increasing OEM exposure to currency fluctuations. - High dependence on imported PCB assemblies, relays, and integrated circuits from East Asia increases cost sensitivity to currency movements; even a Rs 1-2 depreciation against the US dollar can raise landed input costs by 3-5%, given the limited availability of domestic alternatives. - Rising electronics criticality for emissions and precision-Agri drives cost overruns that increase product ASP without guaranteed perceived value for farmers.
 Paints & Coatings	5%	- Though a small share, paint systems have disproportionate impact due to ESG norms, restrictions on volatile organic compounds (VOCs) chemicals that easily evaporate into the air and contribute to air pollution, and plant-rating compliance. - Upgrading to higher-grade coatings (zinc-rich primers, powder coatings) raises per-unit cost but improves corrosion life, important for export markets. - Solvent-price volatility, linked to crude, causes consistent cost creep, affecting capex during plant upgrades.
 Manufacturing Labor	10%	- A 10% share represents a moderate but structural cost that remains stable, impacting long-term competitiveness. - Rising automation makes labour costs a proxy for plant maturity, with older manual welding lines facing higher scrap and rework costs. - Rigid labour ratios limit cost-cutting during demand downturns, so margin stress cannot be fully offset through labour optimization.

 Other Domestic Metals	15%	- Aluminium, copper, and cast components are highly sensitive to global price cycles, unlike steel. - Price spikes in aluminium quickly affect costs of engine covers, gearbox housings, and brackets. - Dependence on tier-2 suppliers with fluctuating furnace costs causes unplanned vendor renegotiations, driving quarterly cost volatility despite a smaller share than steel.
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Source: Custom Market Insights (CMI), CareEdge Research

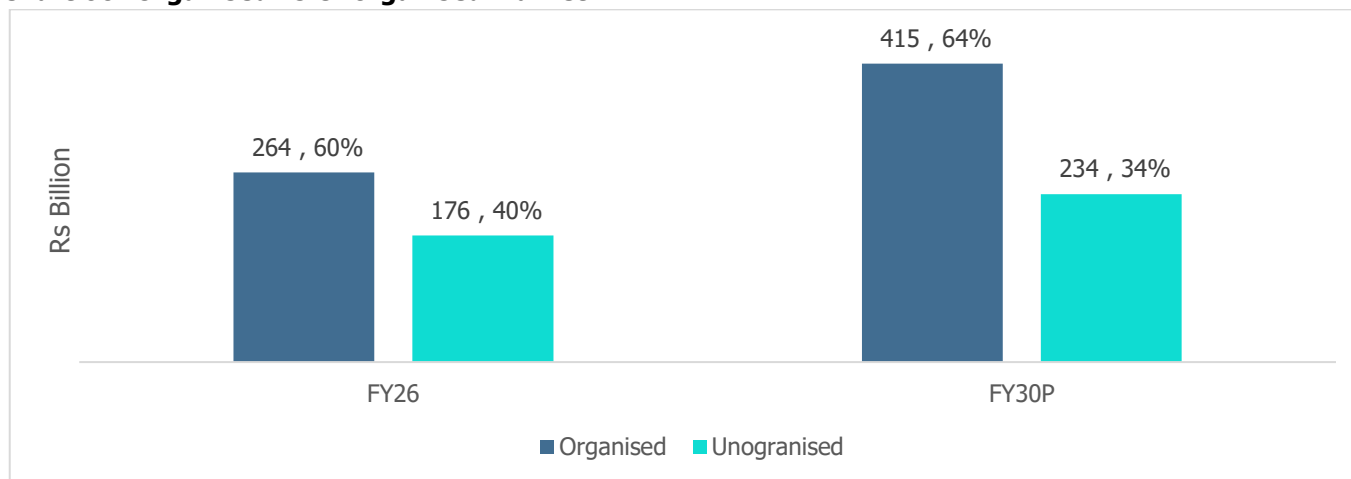
3.2.9 Organised vs Unorganised Market

The Indian agricultural implements market remains moderately fragmented, with organised manufacturers estimated to account for approximately 60% of the market in FY26, while the remaining 40% is catered to by unorganised and regional players. The organised segment comprises established manufacturers with branded product portfolios, structured dealer and distribution networks, product development capabilities and after-sales support, while the unorganised segment primarily comprises regional manufacturers and local fabricators.

The organised segment is expected to gradually gain market share over FY26–FY30, supported by increasing farm mechanisation, greater adoption of subsidy-linked and branded equipment, expansion of organised distribution networks and rising preference for reliable, technologically advanced and standardised agricultural implements. Organised market is expected to grow from Rs 264 billion in FY26 to Rs 415 billion in FY30. Increasing demand for after-sales service, product warranties and financing availability is also expected to support the shift towards organised manufacturers. Accordingly, the organised segment is estimated to increase its share from approximately 60% in FY26 to 64% by FY30, with the unorganised segment correspondingly declining from 40% to 36% during the same period.

The gradual formalisation of the market is expected to benefit established manufacturers with strong manufacturing capabilities, wider product portfolios, dealer networks and servicing infrastructure, enabling them to capture a greater share of the growing demand for agricultural implements. At the same time, regional and unorganised manufacturers are expected to retain a meaningful presence, particularly in price-sensitive markets and relatively standardised implement categories, resulting in continued fragmentation of the market over the medium term.

Chart 60: Organised vs Unorganised Market



Source: Custom Market Insights, CareEdge Research; P: Projected

1. Structural Rise in Agriculture's Economic Contribution

Agriculture's increasing share in rural economic activity is no longer acreage-led; it is being driven by a shift toward productivity-centric farming. Higher mechanization intensity, diversification into commercial crops, and adoption of technology-enabled operations (precision sowing, residue management, post-harvest mechanization) are pushing value creation per hectare. This reflects a sector moving from subsistence orientation toward efficiency, scale and market-linked output.

2. North & West India: Mechanization-Led Productivity Leap

Northern and Western states continue to lead modernization due to larger farm sizes, assured irrigation, and acute labour shortages. The paddy-wheat and cotton-wheat rotations are highly time-sensitive, which naturally accelerates adoption of tractors, cultivators, rotary tillers, straw management tools, balers, and precision planters. These regions also demonstrate the highest utilization of custom hiring centres, creating deeper penetration of advanced farm equipment beyond individual ownership.

3. Southern India: Diversification Driving Specialized Mechanization

Southern states are advancing modernization through crop diversification and high-value agriculture. With horticulture, plantations, and multi-crop systems expanding, farmers are shifting toward specialized implements such as power weeders, mulchers, sprayers, and harvesters. The presence of stronger Agri-service ecosystems and progressive input companies is pushing the region toward technology-heavy, crop-specific mechanization, rather than generic equipment adoption.

4. Eastern India: Gradual Modernization Through Aggregation Models

Historically under-mechanized due to small, fragmented holdings, Eastern India is now seeing modernization driven by government-backed machinery banks, subsidies, and FPO aggregation. These interventions reduce ownership barriers and promote shared-use models. As a result, equipment penetration is rising in tillage, sowing, and inter-cultivation tools, signalling a slow but steady shift from manual labour to mechanized operations.

5. The National Modernization Trajectory

Across regions, India's farm equipment adoption pattern shows that modernization is expanding agriculture's share through value enhancement rather than land expansion. Productivity gains, labour substitution, time-efficient operations, and region-specific mechanization strategies are collectively pushing the sector toward a more organized, technology-driven ecosystem.

3.2.10 Transition from Conventional Farming to Modern Farming

1. Structural Shift in India's Farming Approach

India's agricultural sector is undergoing a decisive shift from conventional farming practices largely dependent on basic mechanization and standardized inputs to modern farming systems built on advanced mechanization, precision technology, and scientific crop management. This transition is driven by the need for higher productivity per hectare, consistent output quality, and reduced labour dependency due to rural workforce migration.

2. Mechanization as the Core Driver of Transition

Modern farming builds upon conventional mechanization by increasingly relying on advanced equipment such as precision sowing machines, smart sprayers, and technology-enabled tractors, in addition to traditional tools like tillage

implements. These systems enable farmers to compress crop cycles, improve soil preparation, and achieve uniformity in operations with greater efficiency. This marks a shift from conventional mechanization to more technology-driven and optimized farm operations.

3. Input Standardization & Scientific Crop Management

The transition also reflects growing adoption of precision-oriented and data-supported inputs, including improved seed varieties, balanced fertilizers, micro-irrigation systems, and integrated pest management. While conventional farming emphasized standardized input use, modern farming focuses on calibrated and site-specific application, supporting higher yields, better plant health, and improved resilience against weather and pest shocks.

4. Market-Linked & Commercial Outlook

Conventional agriculture largely operated with a production-driven approach, but modern farming further aligns output with market demand, food processing requirements, and evolving value chains. Farmers increasingly choose crops based on profitability, contract farming opportunities, and access to digital Agri-markets and traceability systems, reinforcing the adoption of structured and technology-enabled practices.

5. Region-Wise Transition Dynamics

The transition is unfolding differently across India.

- **North & West India** moved early due to larger farm sizes, irrigation coverage, and strong equipment penetration.
- **South India** is modernizing through horticulture expansion and crop diversification requiring specialized machinery.
- **East India** is catching up through FPO-led aggregation, custom-hiring centres, and government-backed mechanization schemes, reducing entry barriers for smallholders.

6. Outcome: A More Efficient and Scalable Farming Ecosystem

Overall, the shift from conventional to modern farming represents a move from mechanization-led efficiency to technology-driven, precision-oriented agriculture, enabling greater productivity, predictable output, and more resilient farm economics. This transformation is laying the foundation for higher farm incomes and a more modern, scalable agricultural ecosystem across India.

3.2.11 Crop-wise Segmentation with respect to use of machines

Crop	Key Machines Used	Analytical Insight
Paddy (Rice)	Laser leveller, puddler, transplanter, power weeder, combine harvester, straw management system	- Rice is highly time-sensitive, requiring rapid land preparation and transplanting. - High water dependency drives demand for land-levelling equipment. - Post-harvest straw management, restricted burning, and regional adoption (Punjab, Haryana, UP) fuel mechanization.

Crop	Key Machines Used	Analytical Insight
Wheat	Rotavator, Seeders, zero-till drill, multi-crop planter, combine harvester, straw reaper	- Mechanization is driven by the narrow sowing window after paddy harvest. - Zero-till drills cut cost and time significantly. - High combine penetration on large, uniform acreage and strong contractor-driven demand boost equipment adoption.
Sugarcane	Ratoon manager, trench planter, cultivator, trash shredder, harvester	- Labour-intensive crop seeing rising mechanization due to worker shortages. - Mechanical harvesting adoption is increasing in Maharashtra and Tamil Nadu. - Trash shredding enhances soil health and supports conservation agriculture.
Cotton	Cultivator, rotavator, power weeder, boom sprayer, picker (limited regions)	- Cotton requires very high pesticide application, driving significant sprayer mechanization. - Mechanical picking remains limited but is rising in Gujarat and Telangana. - Labour scarcity is the key factor accelerating mechanization adoption.
Maize	Disc harrow, seed planter, power weeder, boom sprayer, harvester (corn harvester)	- Hybrid seeds and commercial feed demand are driving mechanization. - Precision planting and uniform seed depth boost yields directly. - Harvester adoption is increasing with integration into feed and starch industries.
Soybean	Seeders, power weeder, boom sprayer, reaper	- Mechanization is medium but rising due to the short crop cycle. - Power weeders and sprayers have high penetration. - Harvesting mechanization is limited because of lodging risk.
Pulses (Tur, Chana, Moong)	Seeders, cultivator, sprayer, reaper, mini harvester	- Mechanization is driven by low labour availability during peak sowing. - Harvesting equipment adoption is rising in Madhya Pradesh. - Seeders enhance germination uniformity.
Oilseeds (Groundnut, Mustard)	Groundnut digger, thresher, Seeders, boom sprayer	- Groundnut digging presents a major mechanization opportunity, with high-value machines boosting labour efficiency. - Mustard adoption of sprayers and reapers is growing in Rajasthan and Haryana. - Mechanization is driven by crop-specific labour savings and efficiency gains.

Crop	Key Machines Used	Analytical Insight
Vegetables	Mulching machine, drip irrigation kits, power weeder, transplanter, mini tiller	- High-value horticulture drives adoption of precision tools. - Drip and fertigation systems dominate mechanization. - Labour scarcity during transplanting increases demand for mini transplanters.
Horticulture (Fruits & Orchards)	Power pruner, sprayer, shredder, rotavator, mower	- Mechanization improves orchard productivity and lowers pruning labour. - Adoption of specialized equipment is accelerating. - Crop-specific factors, such as fruit clusters in apple, grape, and banana, drive equipment use.
Millets (Bajra, Jowar, Ragi)	Seeders, cultivator, sprayer, mini harvester	- Lower-value crops are seeing rising demand due to the “nutri-cereal” push. - Mechanization aids uniform sowing. - It also reduces weeding labour requirements.
Briquette and Pellet	Shredders / Chippers, Hammer Mills, Dryers, Briquetting Presses / Pellet Mills, Coolers & Sieves, Conveyors & Storage Silos	- Briquette and pellet production monetizes surplus agri-residue, supporting farm income diversification and reducing open-field burning, particularly in paddy- and cotton-growing belts. - Adoption is supported by steady demand from boilers, brick kilns, and power plants seeking partial replacement of coal and furnace oil, making plant viability sensitive to residue availability and logistics costs.

3.2.12 Industry Evolution

The evolution of India’s farm equipment industry has moved from a tractor-dominated ecosystem to a more diversified machinery landscape where implements, attachments, and specialized equipment drive recurring demand. While tractors remain long-life assets with 10–15+ years of operational life and high refurbishment potential, most implements have materially shorter service cycles, which fundamentally shifts the industry towards a replacement- and reorder-led growth model.

1. Shift from Capital Goods to Consumable Mechanization

Early mechanization revolved almost entirely around tractors, where sales were largely first-time purchases tied to land ownership and credit availability. Implements were supplementary. Today, with expanding mechanization intensity, farmers increasingly use machines that have shorter wear cycles, such as rotavators, tillers, Seeders, sprayers, and residue-management tools. This shift means the industry’s growth is no longer dependent solely on new tractor buyers; it is now driven by continuous replacement and upgrade cycles of implements.

2. Life Cycle Contrast: Tractors vs Implements

Tractors

- Typical life: 10-15 years, often longer with engine overhauls.
- Farmers refurbish engines, tyres, brakes to extend life.
- Replacement cycle is slow; resale and second-hand markets absorb ageing tractors.
- Tractor sales depend heavily on macro cycles, monsoons, and financing availability.

Implements & Machines

- Typical life-
 - Rotavators: 4-6 years
 - Cultivators: 5-7 years
 - Sprayers: 2-4 years
 - Seeders & planters: 5-6 years
 - Straw management tools: 3-5 years
- High wear-and-tear due to soil conditions, rugged usage, and seasonal load peaks.
- Many implements require part replacements (blades, tynes, bearings) every season, creating an ongoing revenue loop.

In addition to field-level implements, post-harvest and biomass processing machines also form an important part of the implements and machinery ecosystem. Key products include briquetting machines, flash dryers, hammer mills, shredder machines, pellet machines, and sawdust making machines. These machines typically have an economic life of 4-7 years, after which rising maintenance costs, efficiency losses, and technology upgrades drive refurbishment or replacement decisions. While the physical life of such equipment can extend longer with maintenance, frequent replacement of wear parts such as hammers, screens, cutters, and bearings creates sustained aftermarket demand.

The shorter life cycle of implements unlocks a high-frequency reorder market, fundamentally different from the slow-moving tractor replacement curve.

3. Rise of the Replacement/Upgrade Market

As mechanization deepens, farmers upgrade implements more frequently to match changing cropping patterns, tighter residue-management norms, precision sowing requirements, and rising labour scarcity.

The reorder market today includes:

- Replacement purchases (worn-out rotavator → new model)
- Category upgrades (cultivator → rotavator; conventional seed drill → Super Seeder for in-situ residue management)
- Multiple implements per tractor, which was not common earlier (e.g., rotavator + Super Seeder)
- Spare parts & consumables, a strong recurring demand stream

This creates a steady, counter-cyclical revenue pool even in years when tractor sales slow down.

4. Industry Evolution: From Tractor-Bound to Implement-Led Ecosystem

Historically, the tractor was the economic engine. Implements were low-cost additions. The industry is now transitioning into a structure where:

- Implements drive higher frequency of customer engagement
- Replacement cycles are predictable and faster
- OEMs increasingly rely on aftermarket parts for margin stability
- Export markets for implements grow faster due to shorter adoption cycles

Implements act as the consumables of mechanization, ensuring a sustained value chain long after a tractor is sold.

5. Structural Outcome: A Renewable Revenue System

With tractors lasting over a decade and implements requiring replacement every 3–6 years, the farm equipment market naturally evolves into a renewable, recurring revenue model. OEMs see a rising share of revenues from:

- replacement implements
- upgraded categories
- wear parts (blades, discs, bearings, tynes)
- accessories and attachments

3.2.13 Market Size Co-Relation of Tractor Vs Implements

Agricultural implements refer specifically to tractor-mounted, tractor-drawn, or tractor-operated attachments that are used to perform farming operations. These include ploughs, harrows, cultivators, rotavators, seed drills, planters, sprayers, balers, and other task-specific attachments that rely on tractors or external power sources for operation. Implements are generally complementary to tractors and form an integrated mechanization ecosystem.

In contrast, agricultural equipment is a broader industry term that includes both powered and self-propelled machinery as well as standalone mechanized systems. This category covers tractors, harvesters, threshers, irrigation systems, power tillers, and other independent machines that may not necessarily require a tractor for functioning. Therefore, implements represent a sub-segment within the larger agricultural equipment industry.

At an industry level, the implements segment is typically characterized by higher product variety, lower average unit value compared to tractors, faster innovation cycles in crop-specific solutions, and stronger linkage to cropping patterns and regional agronomic practices. The equipment industry, on the other hand, includes capital-intensive machinery segments such as tractors and combine harvesters, where growth is more closely tied to farm income cycles, credit availability, and replacement demand.

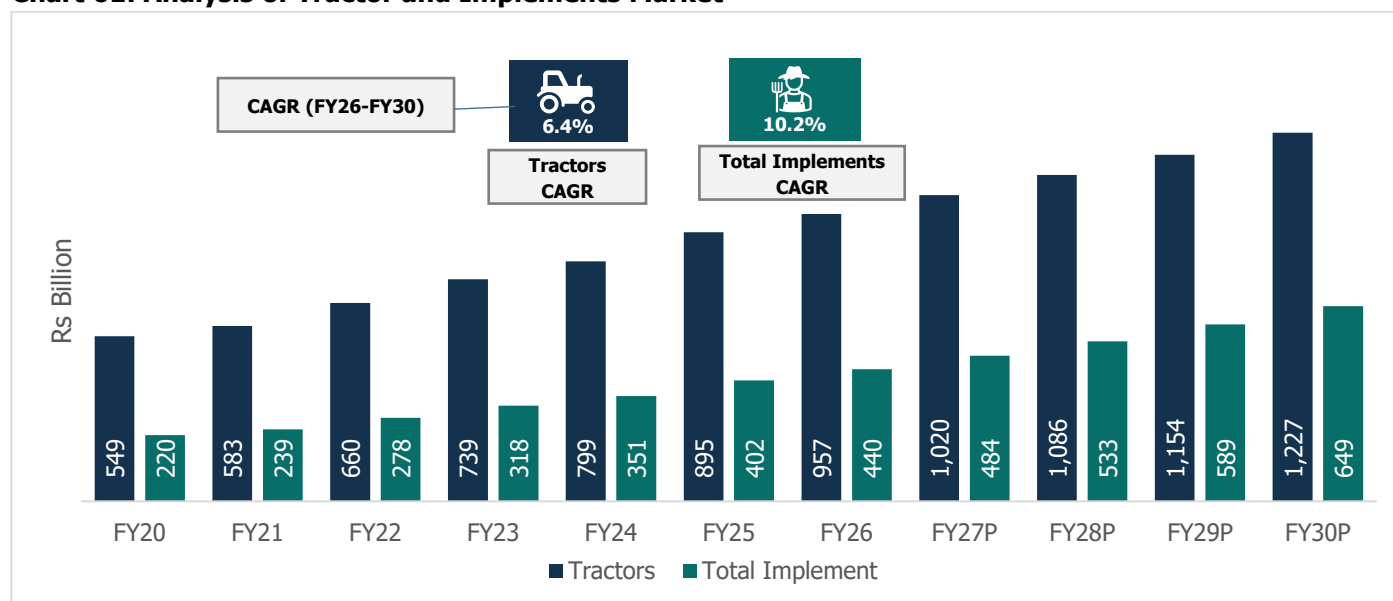
The tractor and total implements markets in India exhibit a strong positive correlation, reflecting the interlinked nature of farm mechanization. Both markets show steady growth from FY26 to FY30, driven by structural factors such as increasing farm mechanization, crop diversification, and higher adoption of modern implements alongside tractors.

The tractor market rises from Rs 957 billion in FY26 to Rs 1,227 billion in FY30, representing a CAGR of 6.4%. Over the same period, the total implements market grows from Rs 440 billion to Rs 649 billion, with a higher CAGR of 10.2%. The faster growth in implements indicates that farmers are increasingly investing in a broader set of implements per

tractor to boost productivity. The faster growth in implements reflects higher per-tractor spending, as farmers increasingly purchase multiple, task-specific implements for a single tractor rather than relying on a limited set of attachments.

Year-on-year growth from FY26 onwards shows both segments expanding steadily, with the implement-to-tractor ratio gradually rising. The implements-to-tractors market-value ratio increased from approximately 0.40x in FY20 to 0.46x in FY26 and is projected to reach approximately 0.53x by FY30, reflecting increasing implement penetration, multiple attachments per tractor, and demand from the existing tractor population. This trend highlights deeper mechanization penetration, driven by the need for different implements across land preparation, sowing, residue management, and harvesting, reinforcing the growing role of complementary equipment in overall sector growth.

Chart 61: Analysis of Tractor and Implements Market



Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

3.2.14 Analysis Of Jagatjit for Different Means of Financing Agri Equipment Products

Financing Mode	Dealer Network, Purchase Process & Geographic Reach	Industry Dynamics	Impact on Jagatjit Agri Equipment	Strategic Implication
Outright Purchase	Strong district-level dealer presence in high-surplus states (Punjab, Haryana, Western UP, Maharashtra, Gujarat) drives cash purchases post-harvest. Process is direct: product	Dominant in Northern & Western India due to higher farm surplus; purchase cycles align with Rabi/Kharif harvest cash flows. Farmers prefer implements	Jagatjit can benefit due to lower ticket price positioning, creating strong rural uptake. However, demand becomes highly volatile, heavily dependent on crop	Develop season-linked schemes, strengthen dealer inventory forecasting, and design pre-season locking programs to

Financing Mode	Dealer Network, Purchase Process & Geographic Reach	Industry Dynamics	Impact on Jagatjit Agri Equipment	Strategic Implication
	demo, price negotiation, immediate payment, and delivery from dealer inventory. Export markets also largely follow distributor-led outright procurement.	with shorter payback (1–2 seasons). Price elasticity is high and discount-driven clustering creates demand spikes.	performance and MSP realisations.	smoothen production cycles.
Bank / NBFC Loans	Dealers facilitate documentation and coordinate with banks/NBFCs for approval before dispatch. Loan-led sales are stronger in credit-penetrated states such as Karnataka, Tamil Nadu, Maharashtra, and Andhra Pradesh. Wider dealer reach improves financing conversion. Globally, financing is typically managed at distributor/importer level.	Implement financing is still under-penetrated because lenders prefer collateral-backed tractor loans. Small-ticket equipment faces higher risk perception and lower resale liquidity. Documentation friction reduces adoption, especially among marginal farmers.	Jagatjit might face lower conversion rates versus larger brands with strong NBFC tie-ups. Customers often shift to brands that offer bundled financing even at a higher product cost.	Prioritise NBFC tie-ups, especially regionals; introduce interest-subsidized dealer schemes; integrate financing approvals at dealer outlets to reduce drop-offs.
EMI / Digital Finance	Digitally enabled dealers process instant EMI approvals through fintech partnerships. Purchase involves digital KYC, credit scoring, EMI confirmation, and quick delivery. Adoption is higher in progressive rural clusters across	Growing rapidly due to fintech underwriting models and ability to approve sub-Rs 2 lakh loans instantly. Particularly strong in high-tech implement categories like seeders, sprayers,	Jagatjit's mid-range product pricing fits EMI-linked affordability patterns. Younger farmers (below 40 years) increasingly prefer EMI-based purchases.	Partner with rural fintech lenders; deploy QR-based instant EMI approval systems and create dealer incentives for EMI push to expand market base.

Financing Mode	Dealer Network, Purchase Process & Geographic Reach	Industry Dynamics	Impact on Jagatjit Agri Equipment	Strategic Implication
	Southern and Western India. Limited but emerging in select export markets.	and rotavators. Helps farmers with limited cash liquidity.		
Bulk Purchase (FPOs / CHCs)	Regional distributors or large dealers manage institutional orders, subsidy paperwork, and service commitments. Process includes technical evaluation, bulk pricing negotiation, financing/subsidy linkage, and phased delivery. Strong presence required in Northern, Central, and Southern mechanization clusters.	Driven by subsidy-led adoption and operational need for multi-crop machinery. FPOs prefer vendors offering post-sales reliability and spare part availability. Custom Hiring Centres (CHCs) focus heavily on lifecycle cost and durability because machines operate 8–10x more intensively than individual farmer use.	Jagatjit's diversified product build and competitive pricing match Custom Hiring Centres (CHC) requirements. However, limited Annual Maintenance Contract (AMC) infrastructure may restrict repeat institutional orders.	Create CHC-specific heavy-duty variants, offer extended warranties, introduce AMC contracts, and design bundled implement packages to increase institutional share.
Rental / Leasing Operators	High-volume dealers supply fleet buyers with negotiated pricing and service support. Process includes bulk agreements and seasonal payment structuring. Demand concentrated in mechanization-intensive belts such as Punjab, Haryana, MP, Telangana, and Maharashtra. Export markets rely on	Rental ecosystem expanding due to shrinking farm labour and higher mechanization needs. Operators require low breakdown implements since downtime directly impacts income. Replacement cycles are faster (2–4 years) due to intense usage.	Jagatjit can penetrate strongly due to sturdy designs and lower maintenance cost. Rental operators provide brand visibility and fast adoption across villages.	Develop fleet-only special pricing, create reinforced components for high-duty use, and build partnerships with major rental aggregators to ensure repeat volumes.

Financing Mode	Dealer Network, Purchase Process & Geographic Reach	Industry Dynamics	Impact on Jagatjit Agri Equipment	Strategic Implication
	distributor-managed fleet sales.			

3.2.15 Purchase vs Lease Model Analysis

Purchase vs. Lease: OEM Revenue Stream

For this analysis, we define the revenue streams from the perspective of the Original Equipment Manufacturer (OEM):

- **B2C Sales:** Revenue from direct sales to individual farmers.
- **B2B Sales (Leasing Model):** Revenue from sales to entrepreneurs, Custom Hiring Centers (CHCs), and Farmer Producer Organizations (FPOs) who purchase equipment explicitly for the purpose of leasing/renting it to other farmers. This is the OEM's "leasing model" revenue.
- **Servicing Market:** Revenue generated by OEMs and their authorized dealers from spare parts, maintenance contracts, and repair services.

The Total Lease Revenue earned by Custom Hiring Centres (CHCs) is a separate multi-billion-dollar market but is not OEM revenue; it is enabled by the OEMs' B2B Sales.

Based on market data and industry trends, we have modelled the following revenue distribution for the combined tractors and implements market.

Projected OEM Revenue Split (Estimated Percentage of Total OEM Sales & Service Revenue):

Financial Year	B2C Sales	B2B Sales (Leasing Model)	Servicing Market
FY20	70.0%	16.0%	14.0%
FY21	67.7%	17.0%	15.3%
FY22	65.4%	18.0%	16.6%
FY23	63.3%	19.1%	17.6%
FY24	61.2%	20.3%	18.6%
FY25	59.2%	21.5%	19.4%
FY26	57.2%	22.8%	20.0%
FY27P	55.3%	24.2%	20.5%
FY28P	53.5%	25.6%	20.9%
FY29P	51.7%	27.2%	21.1%
FY30P	50.0%	28.9%	21.2%

Source: Custom Market Insights (CMI), CareEdge Research; P: Projected; E: Estimated

Ratio of Tractors vs. Implements for Each Revenue Stream:

The behaviour within each revenue stream differs significantly between tractors and implements. Here is a best-effort breakdown of the ratio:

i. B2C Sales:

- **Tractors vs. Implements Ratio: ~75:25**
- The B2C segment is dominated by tractor purchases, which are the primary power asset and a status symbol. Implements are often added later, and many are still sourced from the unorganized sector.

ii. Sales B2B (Leasing Model):

- **Tractors vs. Implements Ratio: ~40: 60**
- The Custom Hiring Centre (CHC) business model is fundamentally about providing *implement services*. While a Custom Hiring Centre (CHC) needs tractors, the core of their rental revenue comes from high-value, operation-specific implements like Combine Harvesters, Rotavators, Laser Land Levelers, and Rice Transplanters. Therefore, implement sales dominate this segment.

iii. Servicing Market:

- **Tractors vs. Implements Ratio: ~60:40**
- The service revenue is heavily skewed toward tractors due to their complex engines, higher service costs, and longer lifespan, which guarantees a long tail of spare part demand. Implements, especially mechanical ones, have lower and less frequent service needs.

3.2.16 Briquette and Pellet Industry Overview

The biomass briquette and pellet industry is entering a high-growth phase, driven by rapid industrial fuel substitution, supportive regulatory frameworks, and the increasing pressure on manufacturing sectors to decarbonize. As per EIA (Energy Alternatives India), with the market expanding from USD ~3.0-3.5 billion in CY25 to a projected USD ~7-8 billion by CY30, the sector is transitioning from a fragmented, cost-driven ecosystem to a more organized, efficiency- and quality-driven energy market.

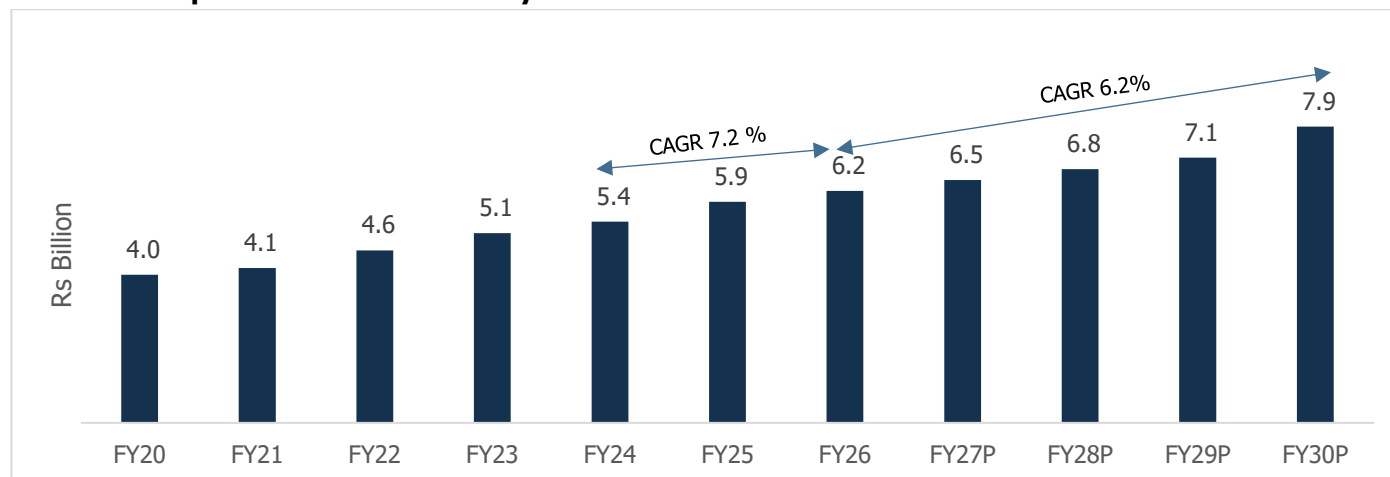
The core momentum comes from industries replacing coal and furnace oil with cleaner biomass fuels, backed by compliance requirements, urban pollution restrictions, and companies aligning with ESG and Scope-1 emission reduction targets. Pellets owing to higher density, uniformity, and compatibility with automated boilers—are capturing a growing share of this transition, while briquettes continue to dominate localized, cost-sensitive demand.

Strong raw material availability, the rise of agro-industrial clusters, and improving densification technologies are enabling steady supply-side scalability. At the same time, challenges like seasonal residue volatility and logistics intensity are reshaping the sector into regionally integrated micro-markets where sourcing, production, and consumption remain tightly linked.

The briquettes and pellets market has demonstrated steady growth over the historical period, increasing from Rs 4.0 billion in FY20 to Rs 6.2 billion in FY26, supported by rising utilization of agricultural residues and growing demand for alternative biomass-based fuels. The market is expected to reach Rs 7.9 billion in FY30, reflecting continued momentum driven by industrial and commercial fuel substitution.

Over the forecast period FY26–FY30, the market is expected to grow at a CAGR of around 6.2%, expanding from Rs 6.2 billion in FY26 to Rs 7.9 billion by FY30. Growth is supported by increasing adoption of biomass briquettes and pellets in boilers, brick kilns, and power generation, alongside policy push toward renewable energy and waste-to-energy solutions. Improving collection of agri-residue and gradual formalization of the biomass fuel supply chain are expected to further support market expansion over the medium term.

Chart 62: Briquette and Pellet Industry Market Size



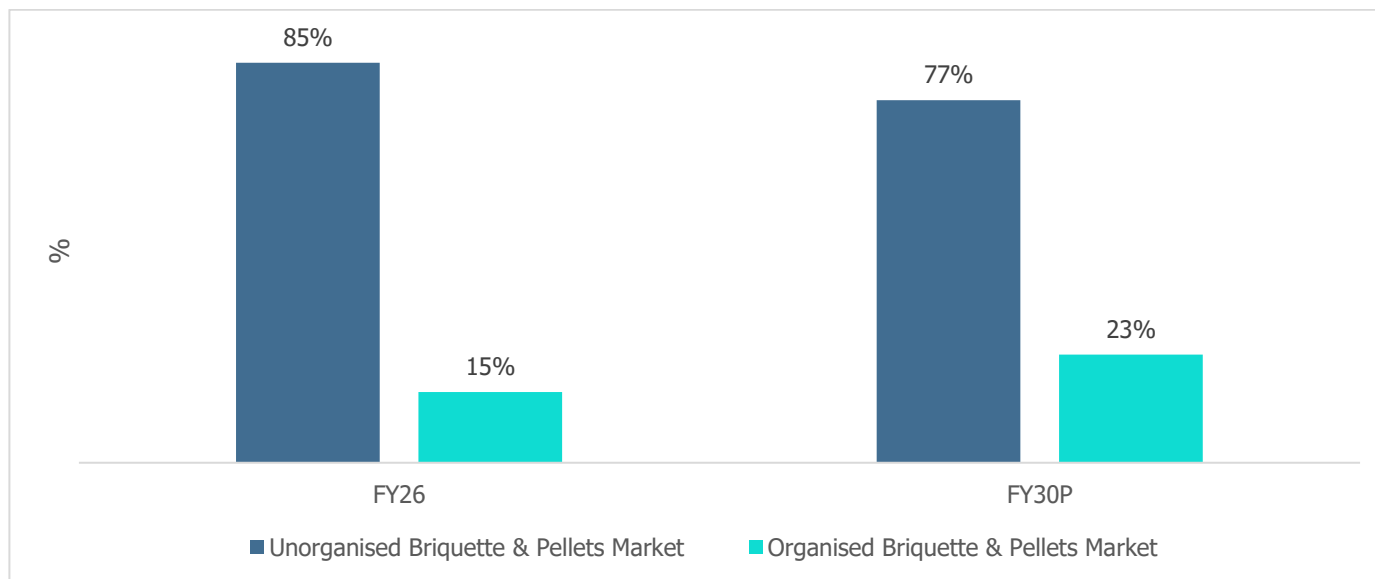
Source: Custom Market Insights (CMI), CareEdge Research; P: Projected

The Indian biomass briquette and pellet market remains highly fragmented and predominantly unorganised, with a large number of small and regional manufacturers operating alongside a relatively limited number of organised, large-scale producers. The organised segment is estimated to account for approximately 15% of the market in FY26, with the balance of approximately 85% comprising unorganised and regional players. The fragmented structure is primarily attributable to the localised availability of agricultural and forestry residues, relatively low entry barriers for small-scale briquetting operations and the regional nature of biomass procurement and consumption.

The market is, however, expected to undergo gradual formalisation over FY26–FY30. Increasing demand from industrial users and thermal power plants, biomass co-firing requirements, government financial assistance for manufacturing capacity and growing preference among institutional consumers for consistent quality and assured supply are expected to favour larger and organised manufacturers. Accordingly, the organised segment is estimated to increase its share from approximately 15% in FY26 to 23% by FY30, while the unorganised segment is expected to correspondingly decline from 85% to 77%.

Despite this gradual formalisation, the market is expected to remain predominantly fragmented over the medium term, particularly in briquettes, where regional feedstock availability and proximity to end-users provide competitive advantages to smaller manufacturers. Pellets, particularly industrial-grade and thermal-power-grade pellets, are expected to witness relatively faster formalisation owing to higher quality specifications, larger procurement requirements and increasing demand for standardised fuel.

Chart 63: Briquette and Pellet Industry Classification



Source: Secondary Sources, CareEdge Research; P: Projected

Key Growth Drivers - Briquettes & Pellets Industry

- **Fuel and Import substitution:** Rising fuel costs and emissions norms are encouraging industries such as brick kilns, boilers, food processing units, and small power plants to partially replace coal and furnace oil with biomass briquettes and pellets.
- **Abundant Agri-residue availability:** India generates significant quantities of agricultural residue (paddy straw, cotton stalks, bagasse, sawdust), providing a low-cost and sustainable feedstock base for briquette and pellet production.
- **Policy push for renewable energy and waste utilization:** Government initiatives promoting biomass energy, waste-to-energy projects, and reduction of stubble burning support demand for densified biomass fuels.
- **Carbon reduction and ESG adoption:** Increasing corporate focus on emission reduction and ESG compliance is driving adoption of biomass fuels as a lower-carbon alternative to fossil fuels.
- **Strengthening supply-chain ecosystem:** Better residue collection mechanisms, aggregation models, and logistics infrastructure are improving feedstock availability and plant utilization, supporting scalable growth.
- **Growing use in power generation:** Biomass pellets are increasingly used for co-firing in thermal power plants, creating incremental, policy-led demand.

3.2.17 Government Subsidies And Policies for Agri Equipment Sector

1. Sub-Mission on Agricultural Mechanization (SMAM)

- Flagship scheme promoting farm mechanization across all states.
- 40–50% subsidy on tractors, power tillers, harvesters, sprayers, seeders, transplanter, etc.
- Higher support (up to 60–80%) for SC/ST, small, marginal, women farmers, and NE states.
- Custom Hiring Centres (CHCs) receive Rs 10–25 lakh subsidy depending on equipment mix.

2. PM-KUSUM (Solarization & Irrigation Equipment)

- Subsidy on solar pumps, critical for irrigation modernization.
- Farmers receive up to 60% subsidy, with remaining cost split between state govt & easy credit.
- Encourages replacement of diesel pumps and supports automated micro-irrigation integration.

3. Agriculture Infrastructure Fund (AIF)

- Provides 3% interest subvention and credit guarantee on loans for agri machinery hubs, CHCs, and farm equipment banks.
- Benefits manufacturers, FPOs, agri-entrepreneurs, and cooperatives to expand mechanization access.

4. Custom Hiring Centres & Farm Machinery Banks Support

- Government promotes mechanization for small farmers by subsidizing machinery hubs.
- 40–80% subsidy depending on category and region.
- Supports equipment like rotavators, Seeders, planters, harvesters, balers, and crop residue machines.

5. State-Specific Mechanization Subsidies

Many states provide additional subsidies on top of central schemes:

- **Maharashtra, MP, Rajasthan, UP, Punjab, Haryana:** support for tractors, harvesters, laser land levellers, super seeders.
- **Northeastern states:** highest subsidy slabs (up to 90%) under NEH components.
- **Tamil Nadu & Karnataka:** special programs for micro-irrigation and precision equipment.

6. GST & Import Duty Support for Agri Equipment

- Many farm equipment categories enjoy lower GST rates (5-12%).
- Reduced import duty for specific components to support domestic manufacturing.
- Priority listing under “essential machinery” ensures cost stability.

7. Incentives Under Make in India & PLI-Type Support (Selected Segments)

- Encouragement for manufacturing of efficient implements, electric agri equipment, precision systems.
- Capital assistance, easier licensing, and technology-upgradation support for OEMs.

8. Crop Residue Management (CRM) Scheme

- Up to 50–80% subsidy on equipment like Happy Seeders, Super SMS, Mulchers, Baling Machines, and Reapers.
- Supports manufacturers and CHCs to promote eco-friendly mechanization.

9. Biomass Briquette & Pellet Manufacturing Support (MNRE National Bioenergy Programme)

- The Ministry of New and Renewable Energy (MNRE) runs the Biomass Programme under the National Bioenergy Programme (2021-22 to 2025-26) to promote setting up of biomass briquette and pellet manufacturing plants across India.
- Central Financial Assistance (CFA) for briquette and pellet plants is provided as:
 - **Briquette manufacturing plant:** Rs 9 lakh per MTPH (metric ton/hour) capacity (maximum Rs 45 lakh per project).
 - **Non-torrefied pellet plant:** Rs 21 lakh per MTPH or 30 % of plant & machinery cost (whichever is lower; maximum Rs 105 lakh per project).
 - **Torrefied pellet plant:** Rs 42 lakh per MTPH or 30 % of plant & machinery cost (whichever is lower; maximum Rs 210 lakh per project).
- Applications are accepted online through the MNRE's BioURJA portal for approval and disbursement.

3.2.18 Sustainability And Environment Regulations

1. Emission Norms for Tractors & Farm Machinery

- Governed by TREM (Tractor Emission Norms) Stage IV & V, aligning with global standards.
- Manufacturers must adopt cleaner engines, particulate filters, and improved combustion technologies.
- Objective: reduce NOx, PM, HC, and improve fuel efficiency across tractor and diesel equipment.

2. Restrictions on Crop Residue Burning & Promotion of CRM Equipment

- Central and state regulations discourage stubble burning due to air pollution.
- Push for Happy Seeders, Mulchers, Super SMS, Balers, and Reapers through government schemes.
- Regulatory environment indirectly boosts demand for eco-friendly machinery.

3. Energy-Efficient & Low-Carbon Mechanization Standards

- National policy emphasis on fuel-efficient engines, optimized tillage equipment, precision planters, and reduced-field passes.
- Promotion of conservation agriculture tools that reduce soil disturbance and CO₂ emissions.

4. Push for Electric, Hybrid & Solar-Powered Farm Equipment

- Encouragement under renewable-energy mandates and PM-KUSUM.
- Incentives for solar pumps, battery-powered sprayers, and electric small machines.
- Policy push aligns with India's Net Zero commitments and reduction of diesel dependence.

5. Sustainable Manufacturing Compliance

- Manufacturers required to follow:
 - BEE guidelines for machinery components.
 - Waste & effluent management norms under Pollution Control Boards.
 - Phasing out hazardous materials in paints, oils, plastics (RoHS-style compliance).

- Promotes cleaner production practices across factories.

6. Soil Health & Water Conservation Regulations

- Regulatory encouragement for precision equipment such as micro-irrigation tools, laser land levellers, and precision seeders.
- Supports lower water use, reduced fertilizer run-off, and improved soil structure.

7. Extended Producer Responsibility (EPR) in Some Components

- Emerging expectations around battery recycling, plastic parts disposal, and packaging material recovery.
- EPR is gradually extending into agricultural equipment is likely to tighten in coming years.

3.2.19 Indian GDP Growth Trends Affecting Agriculture

Trend	GDP Insight	Impact on Agriculture
 Structural GDP Shift	GDP growing 6–7% annually while agriculture's share declining from ~18% - ~14%	Higher pressure on productivity, mechanisation, and efficiency upgrades
 Rising Rural Incomes	Strong GDP growth lifting rural purchasing power	Boost in demand for tractors, implements, irrigation systems, and modern inputs
 Infrastructure-Led Growth	Record public capex on roads, irrigation, logistics, agri-markets	Lower post-harvest losses, stronger supply chains, greater adoption of equipment & automation
 Controlled Inflation	GDP growth with inflation maintained at 4–5%	Stable farm economics → farmers invest more in machinery, seeds, solar pumps
 Export-Led GDP Expansion	Rising agri-exports: cereals, sugar, marine, processed foods	Push toward quality, compliance, precision technologies, and value-chain modernisation

 Policy-Driven Transformation	High growth enabling reforms -FPO expansion, PMFBY, MSP efficiency, digital agriculture, PLI schemes	Agriculture becoming formal, tech-driven, and market-integrated
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3.2.20 Key Growth Drivers

1. Structural Labour Shortage and the Push Toward Mechanisation

India is witnessing a steady decline in agricultural labour as younger workers shift toward non-farm employment and rural wages rise under schemes like Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), a Government of India programme that guarantees 100 days of wage employment annually to rural households. This labour scarcity is making manual farming increasingly unviable, pushing farmers to adopt tractors, harvesters, power tillers, and specialised implements. Mechanisation has therefore moved from being an aspirational investment to a practical necessity for ensuring timely field operations and protecting crop yields.

2. Strong Government Support Through Subsidies and Policy Incentives

Government support remains a key catalyst for farm equipment adoption through machinery subsidies, Custom Hiring Centres, and targeted programmes such as SMAM, PM-KUSUM, PMKSY, and the Crop Residue Management Scheme. Under the CRM Scheme, farmers receive financial assistance of 50% of the machinery cost, while rural entrepreneurs, cooperatives, Farmer Producer Organisations, registered farmer societies, and panchayats can receive assistance of 80% for Custom Hiring Centre projects costing up to Rs. 30 lakh. The scheme supports equipment such as Happy Seeders, Super Seeders, Smart Seeders, balers, straw rakes, and zero-till seed-cum-fertiliser drills.

Between FY19 and FY25, the government released approximately Rs. 3,698 crore under the CRM Scheme. As of February 28, 2025, more than 41,900 Custom Hiring Centres had been established and over 3.23 lakh crop-residue-management machines had been supplied to individual farmers and hiring centres. The scheme also provides 65% financial assistance on machinery capital costs of up to Rs. 1.5 crore for establishing paddy-straw supply-chain projects. These interventions reduce equipment ownership costs, improve access for small and marginal farmers, and stimulate demand for crop-residue management and other modern agricultural machinery.

3. Rising Farm Incomes and Transition Toward High-Value Agriculture

Improving MSP coverage, stronger agricultural exports, and the rapid expansion of horticulture, dairy, and protected cultivation are increasing farmer cash flows. As cropping patterns shift toward higher-value produce, farmers are more willing to invest in productivity-enhancing equipment. Equipment ownership is now seen not just as a cost-saving tool but as a way to achieve consistency, scale, and income stability in a competitive market environment.

4. Expansion of Rural Infrastructure and Market Connectivity

Large-scale investments in rural roads, irrigation networks, mandi reforms, and cold-chain logistics have strengthened the agricultural ecosystem. Better connectivity allows faster delivery, servicing, and utilisation of equipment, while improved water availability increases the area under mechanisation-friendly crops. As markets become more integrated and produce travels longer distances, the value of reliable, high-capacity farm machinery becomes increasingly evident.

5. Technological Advancements and Entry of New Business Models

The availability of GPS-enabled tractors, sensor-based implements, smart irrigation systems, and electric or hybrid machinery is reshaping the industry. Coupled with rising penetration of financing, leasing, and pay-per-use models, even small and marginal farmers now have access to modern equipment without heavy upfront costs. This technological and financial democratisation is greatly expanding the effective market size for agri machinery in India.

6. Rising Export Opportunities

Exports are emerging as a structural growth driver for the Indian farm equipment industry, supported by cost-competitive manufacturing, scalable production capacities, and product designs suited to small and mid-sized farm holdings. Indian manufacturers are increasingly supplying tractors and implements to Africa, Southeast Asia, and Latin America, where mechanization levels remain low but are improving steadily. Export growth also helps smooth domestic demand cyclicalities, improves capacity utilization, and enables manufacturers to diversify revenue streams beyond the Indian monsoon-dependent market.

3.2.21 Threats and Challenges to the Issuer and Their Products

1. Fragmented Landholdings and Affordability Constraints

Small and marginal farms account for around 86% of India's operational holdings, limiting farmers' ability to economically own and utilise high-value agricultural machinery. High upfront costs and uncertain returns often delay purchases, particularly for specialised implements with seasonal usage.

2. Dependence on Monsoon and Rural Income Cycles

Demand for agricultural implements is closely linked to rainfall, crop output, commodity prices and rural incomes. Weak or uneven monsoons can reduce farm earnings and lead farmers to postpone machinery purchases, resulting in significant year-to-year demand volatility.

3. Limited Access to Credit and Subsidy Dependence

Small farmers frequently face challenges in securing affordable and timely financing for equipment purchases. Moreover, dependence on government subsidies exposes the industry to delays in fund allocation, reimbursement and scheme implementation, which can affect dealer inventories and manufacturers' working-capital cycles.

4. Low Awareness and Limited Access to Mechanisation

Limited knowledge of advanced machinery, inadequate operator training and uneven availability of Custom Hiring Centres constrain adoption in under-mechanised regions. Although machinery banks and hiring centres have expanded, their benefits have not fully reached the district, panchayat and village levels.

5. Unorganised Competition and Lack of Standardisation

The industry faces significant competition from small and unorganised manufacturers offering lower-priced implements. Variations in product quality, safety standards, testing and component compatibility can affect equipment reliability and constrain the growth of organised manufacturers. The lack of standardised and interchangeable parts also increases maintenance complexity.

6. Import Dependence and After-Sales Service Gaps

Certain specialised and high-technology equipment categories remain dependent on imports, exposing the industry to currency fluctuations, supply-chain disruptions and higher component costs. At the same time, inadequate dealer coverage, spare-parts availability and trained service personnel in rural areas can increase equipment downtime and discourage adoption of technologically advanced implements.

4 Competitive Landscape

4.1 Company Profile

Jagatjit Agri Engineering Limited, formerly known as Jagatjit Agri India Private Limited, is an agricultural implements manufacturing and engineering company providing end-to-end crop solutions based in Ludhiana, Punjab. Its registered office is located at Village Dehlon, Ludhiana, Punjab. The company operates under the Jagatjit brand and is associated with the wider Jagatjit Group, which has been engaged in agricultural machinery manufacturing since the 1980s.

The company manufactures a range of tractor-operated and tractor-mounted agricultural implements used across different stages of crop cycle. The company offers a wide and diversified portfolio of 20+ products and 190+ SKUs such as Super Seeders, Straw Reapers, Balers, Laser Land Levellers, Boring Machines, Reaper Binders, Rotavators, Laser Systems, Hay Rakes, Zero Till Drills, Silage Balers, Briquette Machines, Threshers, Mould Board Ploughs, Inter-Row Weeders, Combine Harvesters, Mobile Shredders, Straw Choppers, DSR machines, Potato Diggers, Cow Dung Briquette Machines and Maize Chaff Cutters, along with spare parts and other agricultural equipment. The portfolio covers applications such as soil preparation, sowing, crop-residue management, land levelling, harvesting, baling, biomass processing and fodder management, thereby providing equipment across multiple stages of the crop cycle. The company provides end-to-end green energy solutions that convert agricultural residue into biofuels such as briquettes and pellets, promoting sustainable residue management while creating an additional source of income for farmers. Jagatjit Agri Engineering Limited offers an integrated portfolio spanning the agricultural value chain, from land preparation and sowing to harvesting, crop-residue management and conversion of agricultural residue into biomass briquettes and pellets.

The company is the third-largest homegrown agricultural implement manufacturing company in India.³ The company has established a notable position in the Indian Straw Reaper market, with an estimated market share of approximately 13% in value terms as of FY26.

Super Seeder adoption in India is concentrated in select agricultural states with a high prevalence of paddy-wheat cultivation and associated crop-residue management requirements. Punjab, Haryana, Uttar Pradesh and Madhya Pradesh represent key markets for Super Seeders, supported by increasing adoption of mechanised residue management and government initiatives promoting in-situ management of crop residue. As of FY26, Jagatjit Agri Implements has a notable presence in these key markets, with an estimated market share of 30% in Madhya Pradesh, 15% in Haryana and 12% in Punjab, based on Super Seeder units deployed under government subsidy programmes. The Company's relatively strong positioning in these states reflects its established presence in regions with high demand for mechanised crop-residue management solutions. While Super Seeders are also used across other parts of India, these four states have been considered as the key markets for assessing the Company's position in the Super Seeder segment, given their relevance to the application and adoption of the implement. The company has also introduced a multi-crop Super Seeder suitable for more than 10 crops across diverse agro-climatic conditions in India, strengthening its ability to address varied farming requirements nationwide.

Super Seeder and zero-till equipment form part of the Company's residue-management and sowing equipment portfolio. The company has multiple Super Seeder configurations, including 5-ft, 6-ft, 7-ft, 8-ft, 9-ft and 10-ft variants, with different disc/tine configurations and tractor-power requirements. Its product specifications indicate tractor compatibility ranging from approximately 45 HP and above for the 5-ft variant to 75 HP and above for the 10-ft variant.

³ Market positioning assessed based on the revenues of agricultural implement manufacturers in India based on FY26 revenues.

The company's participation in government-supported agricultural machinery programmes is reflected in state-level manufacturer empanelment. The company has a notable presence in Madhya Pradesh and Haryana, with an estimated market share of 16% and 14%, respectively, across the relevant product categories⁴ as of FY26.

The company operates state-of-the-art manufacturing facilities at Dehlon (Ludhiana) and Cheema (Sangrur) in Punjab, where it manufactures a range of agricultural implements including rotavators, Super Seeders, mulchers, boring machines, and straw reapers. The strategic location of these facilities provide proximity to agriculturally active states such as Haryana, Uttar Pradesh and Madhya Pradesh. Both the facilities have the capacity to facilitate manufacturing of entire product portfolio under a single roof⁵.

The company has established its business and conducted its operations through Saron Mechanical Works I and II⁶ for more than three decades and has built a strong presence in Northern and Central India. The company also continues to expand its engagement with dealers and distributors in other regions of the country.

The company has received recognition through various record and industry award platforms. In August 2019, the company set a record for assembling the maximum number of Super Seeders in 24 hours, as recognised by the Asia Book of Records. In November 2019, it received recognition from the India Book of Records and International Book of Records for assembling the maximum number of paddy straw choppers in 24 hours. In 2021, the company received the "Emerging Brand for Rural Impact" award under the Agriculture Leadership Awards. The company has also received the "Emerging Brand for Rural Impact" recognition under the National Awards for Excellence in Rural Marketing.

The company's business operates in an agricultural implements market supported by government initiatives relating to agricultural mechanisation and crop-residue management, including the Crop Residue Management (CRM) Scheme and the Sub-Mission on Agricultural Mechanization (SMAM) Scheme. These schemes provide support for the adoption of agricultural machinery and can reduce the effective acquisition cost of equipment for farmers.

⁴ Product categories-

Madhya Pradesh: Super Seeder, Straw Reaper, Zero Till Seed cum Fertiliser Drill, Shredder/Mulcher, Reversible plough, Paddy Thresher, Laser and Leveller

Haryana: Super Seeder, Straw Chopper & Mulcher, Zero Till Seed cum Fertiliser Drill

⁵ Based on Chartered Engineering Certificate dated 23rd September 2026

⁶ The above-mentioned companies were initially a part of Jagatjit Group and now have been merged with Jagatjit Agri Engineering Limited

4.2 Financial Profile

1. Jagatjit Agri Engineering Limited

Jagatjit Agri Engineering Limited, formerly known as Jagatjit Agri India Private Limited, is an agricultural implements manufacturing and engineering company providing end-to-end crop solutions based in Ludhiana, Punjab. While the domestic agricultural implements industry grew at a CAGR of 10.2% over FY23-FY26, the company outperformed registering a proforma CAGR of ~28% in terms of revenue and ~121% CAGR in terms of EBITDA over FY23-FY26. The company derives a substantial portion of its revenue from domestic sales, primarily driven by increasing demand from India's agricultural sector.

Jagatjit Agri Engineering Limited	Restated Figures			Proforma Figures	
	FY26*	FY25^	FY24^	FY25	FY24
Financial Information					
Revenue from Operations (Rs. million)	4,139.70	959.26	488.60	2,537.60	2,074.48
Gross Profit (Rs. million) ⁷	1,617.08	201.22	98.00	943.69	489.16
Gross Profit Margin (%) ⁸	39.06%	20.98%	20.06%	37.19%	23.58%
EBITDA (Rs. million) ⁹	557.38	111.65	66.66	368.18	201.97
EBITDA Margin (%) ¹⁰	13.46%	11.64%	13.64%	14.51%	9.74%
EBIT (Rs. million) ¹¹	510.72	97.03	57.19	333.32	165.96
EBIT Margin (%) ¹²	12.34%	10.11%	11.70%	13.14%	8.00%
Profit After Tax (Rs. million) ¹³	313.90	65.47	25.02	206.95	80.82
Profit After Tax Margin (%) ¹⁴	7.58%	6.82%	5.12%	8.16%	3.90%
Borrowings (Rs. million) ¹⁵	1,344.07	201.44	267.67	845.24	646.54
Tangible Net Worth (Rs. million) ¹⁶	704.74	70.78	5.32	389.96	231.24
Return on Equity (%) ¹⁷	53.89%	172.08%	-347.72%	60.26%	59.50%
Return on Capital Employed (%) ¹⁸	31.10%	35.59%	21.40%	31.55%	26.72%

⁷ Gross Profit is calculated as Revenue from operations less Cost of Goods Sold (COGS). Cost of Goods Sold is calculated as Cost of Materials consumed plus Purchases of Traded Goods plus Changes in Inventories of Finished Goods, Stock-in-Trade and Work-in-Progress

⁸ Gross Profit margin is gross profit for the year as a percentage of Revenue from Operations

⁹ EBITDA is calculated as Profit before tax for the year, plus finance costs and depreciation and amortisation expenses, less other income.

¹⁰ EBITDA Margin (%) is calculated as EBITDA divided by Revenue from Operations

¹¹ EBIT is calculated as Profit before tax plus finance cost less other income.

¹² EBIT Margin (%) is EBIT as a percentage of Revenue from Operations

¹³ Profit after tax (PAT) refers to Profit/(Loss) for the year as appearing in the Restated Financial Information and Proforma Financial Information.

¹⁴ PAT Margin (%) is calculated as PAT for the year as a percentage of Revenue from Operations.

¹⁵ Borrowings is calculated as Non-current Borrowings plus Current Borrowings (Including lease liabilities).

¹⁶ Tangible Net worth is calculated as aggregate value of the equity share capital, other equity less goodwill each as applicable for our Company on a restated basis.

¹⁷ ROE is calculated as Profit after tax of the Company divided by Average Equity for the year. Average Equity is calculated as average of the total equity at the beginning of the year and at the end of the year.

¹⁸ RoCE is calculated as Earnings before interest and taxes (EBIT) divided by Average Capital Employed. EBIT is calculated as Profit before tax plus finance costs less other income. Average Capital Employed is calculated as average of the capital employed at the

Jagatjit Agri Engineering Limited	Restated Figures			Proforma Figures	
	FY26*	FY25^	FY24^	FY25	FY24
Return on Assets (%) ¹⁹	12.20%	10.17%	6.12%	11.61%	5.59%
Current Ratio (In Times) ²⁰	1.10	0.82	0.62	1.12	1.04
Interest Coverage Ratio (In Times) ²¹	5.03	5.06	2.70	4.81	2.71
Debt Equity Ratio (In Times) ²²	1.89	2.85	50.36	1.86	2.80
Sales Contribution by Region					
Northern ²³	68.06%	69.41%	87.28%	81.40%	87.78%
Central ²⁴	25.95%	19.19%	6.07%	12.92%	9.13%
Eastern ²⁵	0.31%	0.51%	1.13%	1.10%	1.44%
Western ²⁶	3.76%	1.55%	0.50%	0.77%	0.16%
Southern ²⁷	0.52%	0.67%	0.00%	0.45%	0.21%
Operational KPIs					
Revenue from Export Customers (%)	1.36%	8.79%	5.01%	3.32%	1.18%
Revenue from Domestic Customers (%)	98.61%	90.96%	94.93%	96.58%	98.81%
No. of States Presence (No.)	20	15	10	18	16
No. of SKUs (No.)	192	95	88	128	113
No. of Units Sold (No.)	19,111	3,803	1,578	12,234	8,895
No. of Products (No.)	20	20	19	20	19

Source: Company Disclosures, *Consolidated Financials ^Standalone Financials

2. Escorts Kubota Limited

Escorts Kubota Limited (EKL), founded in 1944 and headquartered in Faridabad, Haryana, is a Indian engineering company engaged in agricultural machinery, construction equipment, and engine manufacturing. The company produces tractors under brands such as Farmtrac, Powertrac, Steeltrac, Digitrac, and E-Kubota, along with implements and farm solutions. EKL has a combined tractor manufacturing capacity of over 120,000 units annually, supported by a joint venture plant with Kubota adding another 50,000 units.

Escorts Kubota Limited* (Consolidated)	FY26	FY25	FY24
Financial Information			
Revenue from Operations (Rs. million)	1,15,402.60	1,02,438.80	98,035.90

beginning of the year and at the end of the year. Capital Employed is sum total of Net Worth excluding Goodwill and Intangible Assets and including Borrowings.

¹⁹ Return on assets is calculated as profit after tax divided by Average Assets. Average assets are calculated as average of total assets at the beginning of the year and at the end of the year.

²⁰ Current ratio is calculated as Current Assets divided by Current liabilities.

²¹ Interest Coverage Ratio is calculated as EBIT divided by finance Cost.

²² Debt equity ratio is calculated as total borrowings divided by Net-worth.

²³ Northern states include Haryana, Punjab, Uttar Pradesh, Rajasthan, Uttarakhand, Himachal Pradesh, New Delhi and Chandigarh

²⁴ Central states include Madhya Pradesh and Chhattisgarh

²⁵ Eastern States include Bihar, Jharkhand, West Bengal and Odisha

²⁶ Western States include Gujarat, Maharashtra

²⁷ Southern states include Andhra Pradesh, Karnataka, Tamil Nadu, Kerala, Telangana

Gross Profit (Rs. million)	34,203.20	31,772.70	26,556.20
Gross Profit Margin (%)	29.64%	31.02%	27.09%
EBITDA (Rs. million)	15,198.90	11,625.20	11,303.70
EBITDA Margin (%)	13.17%	11.35%	11.53%
EBIT (Rs. million)	12,648.30	9,188.70	9,063.10
EBIT Margin (%)	10.96%	8.97%	9.24%
Profit After Tax (Rs. million)	13,664.20	11,240.60	9,430.30
Profit After Tax Margin (%)	11.84%	10.97%	9.62%
Borrowings (Rs. million)	1,618.90	1,051.80	4,484.60
Tangible Net Worth (Rs. million)	1,22,558.70	1,02,612.00	93,977.50
Return on Equity (%)	12.02%	11.32%	10.67%
Return on Capital Employed (%)	11.10%	9.09%	10.07%
Return on Assets (%)	9.46%	8.82%	8.39%
Current Ratio (In Times)	3.25	2.74	3.14
Interest Coverage Ratio (In Times)	61.91	31.50	21.75
Debt Equity Ratio (In Times)	0.01	0.01	0.05
Operational KPIs			
Revenue from Export Customers (%)	5.54%	5.00%	4.90%
Revenue from Domestic Customers (%)	94.46%	95.00%	95.10%
No. of States Presence (No.)	28	28	28
No. of SKUs (No.)	N/A	N/A	N/A
No. of Units Sold (No.)	1,39,464	1,22,038	1,02,406
No. of Products (No.)	N/A	N/A	N/A

Source: Company Disclosures; *Data for Escorts Kubota Limited has been considered on the basis of continuing operations.

3. VST Tillers Tractors

VST Tillers Tractors Ltd (VTTL), part of the century-old VST Group, was founded in 1967 in joint venture with Mitsubishi Heavy Industries, Japan, and is headquartered in Bangalore. The company is India's manufacturer of power-tillers under its "VST Shakti" brand. VST also produces compact 4-wheel tractors (17 HP–50 HP), precision tillage implements, weeders, reapers, and diesel engines. Its manufacturing footprint includes plants in Hosur (TN), Malur (KA), and Mysuru, supported by an R&D centre.

VST Tillers Tractors (Consolidated)	FY26	FY25	FY24
Financial Information			
Revenue from Operations (Rs. million)	12403.57	9945.49	9680.48
Gross Profit (Rs. million)	3,918.17	3,110.54	3,105.46
Gross Profit Margin (%)	31.59%	31.28%	32.08%
EBITDA (Rs. million)	1646.39	1095.89	1237.36
EBITDA Margin (%)	13.27%	11.02%	12.78%
EBIT (Rs. million)	1,391.34	841.12	967.30
EBIT Margin (%)	11.22%	8.46%	9.99%

VST Tillers Tractors (Consolidated)	FY26	FY25	FY24
Profit After Tax (Rs. million)	1047.20	929.67	1210.67
Profit After Tax Margin (%)	8.44%	9.35%	12.51%
Tangible Borrowings (Rs. million)	19.10	19.64	13.55
Net Worth (Rs. million)	10,925.18	9,994.64	9,213.42
Return on Equity (%)	9.99%	9.66%	13.85%
Return on Capital Employed (%)	13.28%	8.74%	11.10%
Return on Assets (%)	8.03%	7.65%	10.73%
Current Ratio (In Times)	5.63	4.77	4.60
Interest Coverage Ratio (In Times)	72.71	42.88	45.01
Debt Equity Ratio (In Times)	0.00	0.00	0.00
Operational KPIs			
Revenue from Export Customers (%)	6.67%	9.70%	12.81%
Revenue from Domestic Customers (%)	93.33%	90.30%	87.19%
No. of States Presence (No.)	28	28	28
No. of SKUs (No.)	N/A	N/A	N/A
No. of Units Sold (No.)	56,243	42,584	41,868
No. of Products (No.)	N/A	N/A	N/A

Source: Company Disclosures

4. Indo Farm Equipment Limited

Indo Farm Equipment Limited (IFEL), incorporated in 1994 and based in Baddi, Himachal Pradesh, is a manufacturer of tractors, pick-and-carry cranes, engines, diesel gensets, harvester combines and other farm implements. Indo Farm's tractor range spans from about 16–110 HP, while its crane portfolio covers pick-and-carry cranes from 9 to 30 tonnes. It operates a equipped with induction furnaces, machining, fabrication, and assembly lines, enabling strong component-level integration.

Indo farm Equipment (Consolidated)	FY26	FY25	FY24
Financial Information			
Revenue from Operations (Rs. million)	4,400.21	3,871.89	3,752.32
Gross Profit (Rs. million)	1,766.12	1,486.09	1,567.38
Gross Profit Margin (%)	40.14%	38.38%	41.77%
EBITDA (Rs. million)	580.77	582.71	617.95
EBITDA Margin (%)	13.20%	15.05%	16.47%
EBIT (Rs. million)	458.25	474.56	514.81
EBIT Margin (%)	10.41%	12.26%	13.72%
Profit After Tax (Rs. million)	246.94	235.47	154.03
Profit After Tax Margin (%)	5.61%	6.08%	4.10%
Borrowings (Rs. million)	1487.25	1734.32	2721.64
Tangible Net Worth (Rs. million)	5,476.79	5,246.22	3,121.00
Return on Equity (%)	4.54%	5.55%	5.07%
Return on Capital Employed (%)	6.57%	7.40%	8.96%

Return on Assets (%)	3.22%	3.34%	2.38%
Current Ratio (In Times)	2.93	2.79	1.50
Interest Coverage Ratio (In Times)	2.63	1.98	1.82
Debt Equity Ratio (In Times)	0.27	0.33	0.86
Operational KPIs			
Revenue from Export Customers (%)	4.56%	6.64%	4.32%
Revenue from Domestic Customers (%)	95.44%	93.36%	95.68%
No. of States Presence (No.)	15	15	15
No. of SKUs (No.)	N/A	N/A	N/A
No. of Units Sold (No.)	N/A	N/A	4,109
No. of Products (No.)	N/A	N/A	N/A

Source: Company Disclosures

5. Tirth Agro Technology Pvt Ltd. (Shaktiman)

Tirth Agro Technology Pvt. Ltd., popularly known by its brand "Shaktiman," is a Indian manufacturer of agricultural implements, headquartered in Rajkot, Gujarat. Established in 1997, the company specializes in mechanized farm solutions including rotary tillers, mulchers, power harrows, seeders, balers, shredders, sprayers, and other soil-preparation, crop-care, and post-harvest equipment.

Tirth Agro Technology Pvt Ltd (Shaktiman) [Consolidated]	FY26	FY25	FY24
Financial Information			
Revenue from Operations (Rs. million)	N/A	18,917.00	16,846.80
Gross Profit (Rs. million)	N/A	7,628.90	6,111.90
Gross Profit Margin (%)	N/A	40.33%	36.28%
EBITDA (Rs. million)	N/A	2,055.30	1,427.20
EBITDA Margin (%)	N/A	10.86%	8.47%
EBIT (Rs. million)	N/A	1,525.30	968.70
EBIT Margin (%)	N/A	8.06%	5.75%
Profit After Tax (Rs. million)	N/A	1,055.30	607.50
Profit After Tax Margin (%)	N/A	5.58%	3.61%
Tangible Borrowings (Rs. million)	N/A	2,034.80	1,520.70
Net Worth (Rs. million)	N/A	7,778.80	6,731.10
Return on Equity (%)	N/A	14.51%	9.43%
Return on Capital Employed (%)	N/A	16.95%	11.38%
Return on Assets (%)	N/A	9.28%	5.57%
Current Ratio (In Times)	N/A	2.62	2.21
Interest Coverage Ratio (In Times)	N/A	9.23	6.57
Debt Equity Ratio (In Times)	N/A	0.26	0.23
Operational KPIs			
Revenue from Export Customers (%)	N/A	19.37%	17.59%
Revenue from Domestic Customers (%)	N/A	80.63%	82.41%

No. of States Presence (No.)	N/A	N/A	N/A
No. of SKUs (No.)	N/A	N/A	N/A
No. of Units Sold (No.)	N/A	N/A	N/A
No. of Products (No.)	N/A	N/A	N/A

Source: Company Disclosures; NA- Not Available

Note: Data for FY26 for Tirth Agro Technology Pvt. Ltd. are not yet available.

6. Maschio Gaspardo Pvt. Ltd.

Maschio Gaspardo India Private Limited is the Indian subsidiary of Italy-based Maschio Gaspardo Group. The company manufactures agricultural equipment from its facility in Ranjangaon, Pune. Its product portfolio covers soil preparation, sowing and planting, fertilisation, crop protection, haymaking and green maintenance. Key products include rotary tillers, power harrows, reversible ploughs, seed drills, planters, fertiliser spreaders, straw choppers and balers

Maschio Gaspardo India Pvt. Ltd (Consolidated)	FY26	FY25	FY24
Financial Information			
Revenue from Operations (Rs. million)	N/A	4,484.01	3,825.63
Gross Profit (Rs. million)	N/A	1,406.58	1,125.31
Gross Profit Margin (%)	N/A	31.37%	29.41%
EBITDA (Rs. million)	N/A	327.47	186.82
EBITDA Margin (%)	N/A	7.30%	4.88%
EBIT (Rs. million)	N/A	279.39	105.20
EBIT Margin (%)	N/A	6.23%	2.75%
Profit After Tax (Rs. million)	N/A	136.79	75.34
Profit After Tax Margin (%)	N/A	3.05%	1.97%
Borrowings (Rs. million)	N/A	1,307.79	1,412.16
Tangible Net Worth (Rs. million)	N/A	1,015.26	1,129.16
Return on Equity (%)	N/A	12.76%	6.90%
Return on Capital Employed (%)	N/A	11.49%	4.76%
Return on Assets (%)	N/A	4.50%	2.44%
Current Ratio (In Times)	N/A	2.51	3.17
Interest Coverage Ratio (In Times)	N/A	2.57	1.75
Debt Equity Ratio (In Times)	N/A	1.29	1.25
Operational KPIs			
Revenue from Export Customers (%)	N/A	N/A	N/A
Revenue from Domestic Customers (%)	N/A	N/A	N/A
No. of States Presence (No.)	N/A	N/A	N/A
No. of SKUs (No.)	N/A	N/A	N/A
No. of Units Sold (No.)	N/A	N/A	N/A
No. of Products (No.)	N/A	N/A	N/A

Source: Company Disclosures

Note: Data FY26 for is not yet available. NA: Not Available

7. KS Agriculture Industries Pvt. Ltd.

KS Agriculture Industries Pvt. Ltd. is an Indian manufacturer engaged in the development and production of agricultural machinery and farm equipment. The company focuses on providing practical and efficient mechanized solutions to support modern farming practices. Its product portfolio includes a range of equipment designed for soil preparation, crop management, and other agricultural operations, catering to the needs of farmers and agribusinesses.

KS Agricultural Industries Pvt. Ltd. (Consolidated)	FY26	FY25	FY24
Financial Information			
Revenue from Operations (Rs. million)	N/A	704.61	601.33
Gross Profit (Rs. million)	N/A	151.63	131.59
Gross Profit Margin (%)	N/A	21.52%	21.88%
EBITDA (Rs. million)	N/A	34.57	34.93
EBITDA Margin (%)	N/A	4.91%	5.81%
EBIT (Rs. million)	N/A	12.58	15.43
EBIT Margin (%)	N/A	1.79%	2.57%
Profit After Tax (Rs. million)	N/A	2.56	3.68
Profit After Tax Margin (%)	N/A	0.36%	0.61%
Borrowings (Rs. million)	N/A	78.63	87.81
Tangible Net Worth (Rs. million)	N/A	116.79	114.23
Return on Equity (%)	N/A	2.21%	3.27%
Return on Capital Employed (%)	N/A	6.33%	7.44%
Return on Assets (%)	N/A	0.58%	0.88%
Current Ratio (In Times)	N/A	1.03	1.15
Interest Coverage Ratio (In Times)	N/A	1.28	1.31
Debt Equity Ratio (In Times)	N/A	0.67	0.77
Operational KPIs			
Revenue from Export Customers (%)	N/A	0.93%	0.00%
Revenue from Domestic Customers (%)	N/A	99.07%	100.00%
No. of States Presence (No.)	N/A	N/A	N/A
No. of SKUs (No.)	N/A	N/A	N/A
No. of Units Sold (No.)	N/A	N/A	N/A
No. of Products (No.)	N/A	N/A	N/A

Source: Company Disclosures; NA- Not Available

Note: Data for FY26 for KS Agriculture Industries Pvt. Ltd. are not yet available.

8. Ecostan India Pvt. Ltd.

Ecostan India Pvt. Ltd. is an Indian manufacturer specializing in the design and production of biomass and material-handling machinery. The company provides equipment solutions for size reduction, briquetting, and waste-to-energy applications, supporting industries involved in biomass processing, recycling, and sustainable energy generation. Ecotan India Pvt. Ltd. caters to both domestic and international markets, helping customers optimize resource utilization and promote environmentally responsible practices.

Ecoston India Pvt. Ltd (Consolidated)	FY26	FY25	FY24
Financial Information			
Revenue from Operations (Rs. million)	N/A	488.13	719.27
Gross Profit (Rs. million)	N/A	155.22	167.98
Gross Profit Margin (%)	N/A	31.80%	23.35%
EBITDA (Rs. million)	N/A	37.37	41.69
EBITDA Margin (%)	N/A	7.65%	5.80%
EBIT (Rs. million)	N/A	14.23	17.25
EBIT Margin (%)	N/A	2.91%	2.40%
Profit After Tax (Rs. million)	N/A	10.85	11.44
Profit After Tax Margin (%)	N/A	2.22%	1.59%
Borrowings (Rs. million)	N/A	36.25	16.53
Tangible Net Worth (Rs. million)	N/A	40.56	29.83
Return on Equity (%)	N/A	30.82%	47.34%
Return on Capital Employed (%)	N/A	23.10%	39.78%
Return on Assets (%)	N/A	4.14%	4.24%
Current Ratio (In Times)	N/A	0.68	0.42
Interest Coverage Ratio (In Times)	N/A	12.34	9.79
Debt Equity Ratio (In Times)	N/A	0.89	0.55
Operational KPIs			
Revenue from Export Customers (%)	N/A	8.80%	3.65%
Revenue from Domestic Customers (%)	N/A	91.20%	96.35%
No. of States Presence (No.)	N/A	N/A	N/A
No. of SKUs (No.)	N/A	N/A	N/A
No. of Units Sold (No.)	N/A	N/A	N/A
No. of Products (No.)	N/A	N/A	N/A

Source: Company Disclosures

Note: Data FY26 for Ecoston India Pvt. Ltd. are not yet available. NA: Not Available

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