



Agriculture Equipment & Crane Industry

INDO FARM EQUIPMENT LIMITED

B2K analytics
BYTES TO KNOWLEDGE

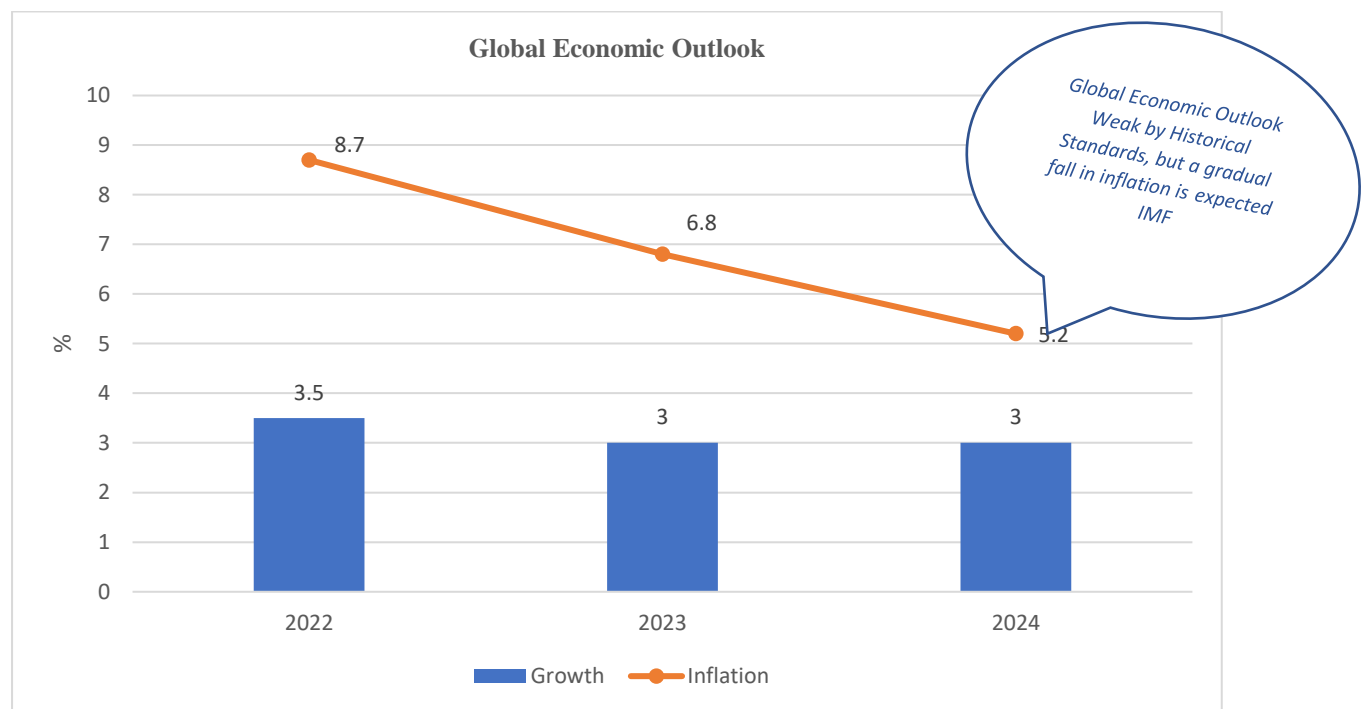
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Macro-Economic Outlook

Global economic growth expected to fall weighed down by inflationary and geo-political concerns; however, gradual decline in inflation expected

The global economy is currently marked by slowing growth, pressing inflationary concerns, and geo-political tensions influencing inter-state trade and politico-economic relations. IMF has projected the global growth in 2023 and 2024 to fall to 3% from 3.5 in 2022 and it expects a gradual fall in global inflation from 8.7% in 2022 to 5.2% in 2024. Dropping energy and food prices have been helping headline inflation to decline across countries though it still stands higher than central banks' target.



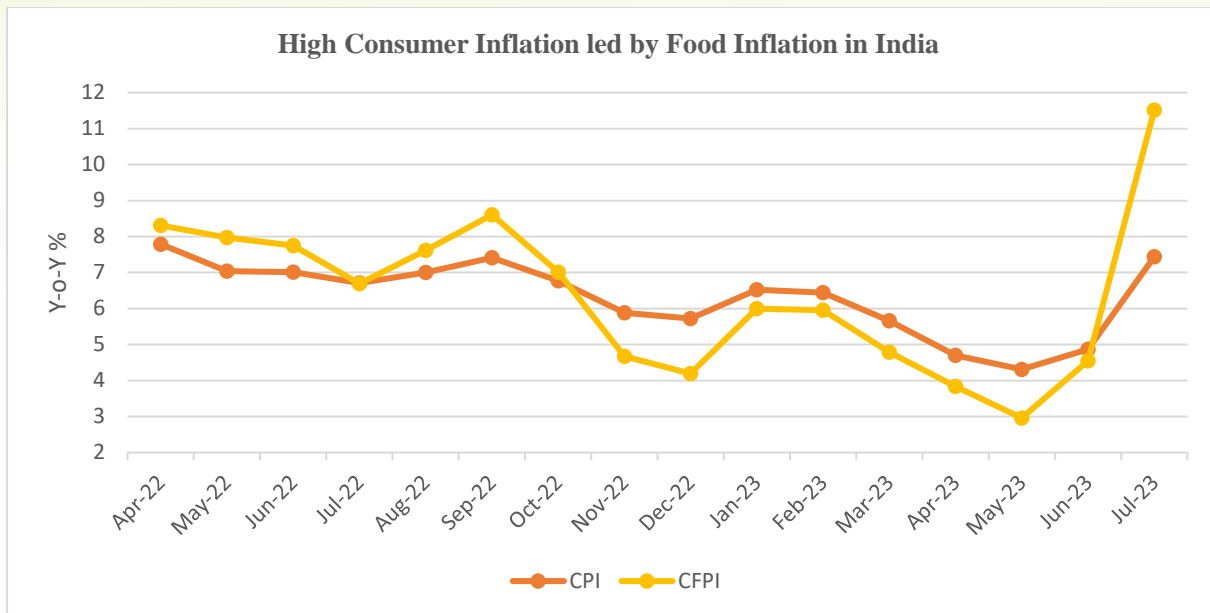
Source: IMF

Global inflationary concerns may rise further if the war between Russia and Ukraine intensifies. Most of the economies across the globe have been focusing on controlling inflation while ensuring financial stability.

Growth in the emerging market economies too stays muted on weak external demand, higher debt and stringent external funding.

Domestic economic growth is likely to slow down under the effects of consumer and food inflation, truant monsoons and global uncertainties but the government's capital expenditure is expected to sustain growth

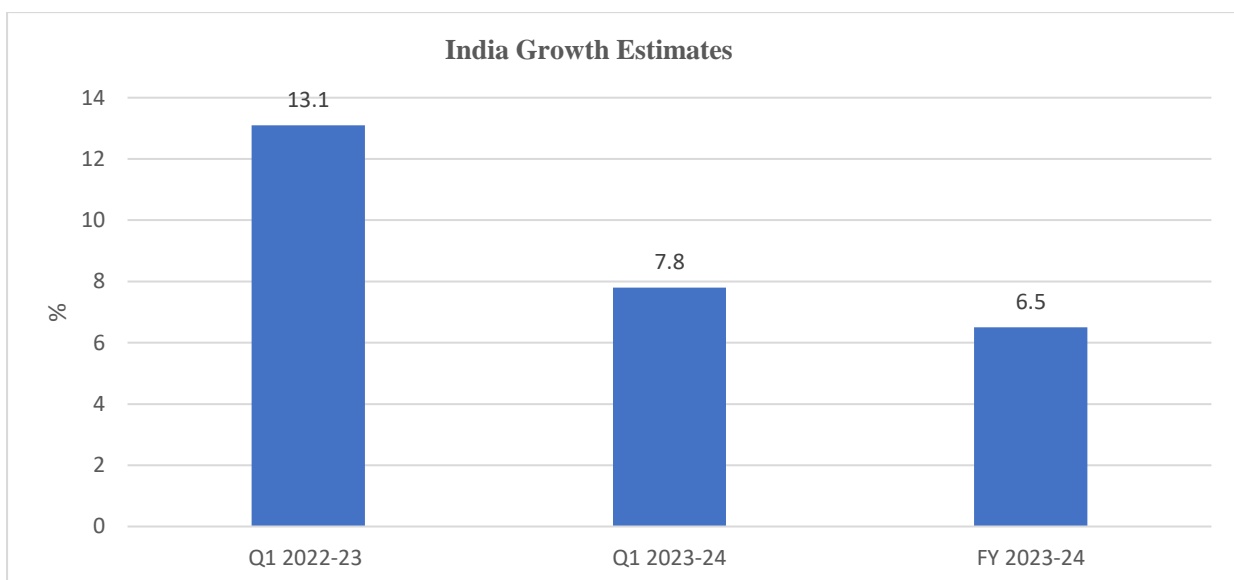
In India, the y-o-y CPI inflation climbed to 15 months high to 7.44% in July 2023 while food inflation has spiked as high as 11.4%. The sharp rise in CPI inflation prompted the Monetary Policy Committee (MPC) to revise its projection for the second quarter from 5.2% to 6.2% and for FY 2024 from 5.1% to 5.4%.



Source: RBI

Inflations forecasts may be further revised upwards if food inflation persists. The government is expected to focus on supply side measures to ease inflation. The Reserve Bank of India's Monetary Policy Committee has already increased the policy rate by 250 basis points since May 2022.

The latest estimates by the Government of India project real GDP growth in Q1 2023-24 to be at Rs 40.37 lakh crore, recording a growth of 7.8% as compared to 13.1% in Q1 2022-23. The RBI projects real GDP growth for 2023-24 at 6.5%. However, **the inflation trajectory suggests downside risks to growth and a vigil on inflation is prompted as rising inflation may adversely impact growth.**



Source: Government of India, RBI

The impact of uneven monsoon and that of El Nino weighs on the overall growth as well as agricultural growth. The latest government estimates reveal 3.5% growth in Agriculture, Forestry & Fishing during Q1 (April-June) 2023-24 against 2.4% in Q1 2022-23. The hottest and dry August, since 1901, experienced in India, also has a bearing on agricultural outlook, food prices and overall growth. **These factors are also expected to impact the market for agricultural equipment industry to a certain extent in FY 2023-24.**

The latest estimates by the Government of India project real GDP growth in Q1 2023-24 to be at Rs 40.37 lakh crore, recording a growth of 7.8% as compared to 13.1% in Q1 2022-23. The RBI projects real GDP growth for 2023-24 at 6.5%. **The growth of services sector by an impressive 10.3% Q1 2022-23 lends further buoyancy to the economy. The overall growth is driven by the government's continuing stress on capital expenditure resulting in robust private consumption and gross fixed capital formation. Capital expenditure has encouraged private investments in the country during the quarter and the government is keen on not cutting down on capex. Hence, though inflation suggests downside risks to growth, government's stress on capital expenditure is expected to trigger more investments and help sustain the growth trajectory.**

For June 2023, the Quick Estimates of Index of Industrial Production (IIP) stood at 143.4 recording a y-o-y growth of 3.7%. The Indices for Mining, Manufacturing and Electricity sectors for June 2023 recorded y-o-y growth rates of 7.6%, 3.1% and 4.2% respectively. Firmed up crude oil prices prompted by production cuts are likely to add to industrial production costs. However, domestic economic activity has stayed buoyant on back of domestic demand though external demand stays weak.

The effect of global demand, volatility in global financial markets, geopolitical and geo-economic tensions are also expected to weigh upon India's domestic growth outlook.

Global Farm Equipment Industry

The global agriculture equipment market is projected to grow from USD 180.81 billion in 2023 to USD 296.61 billion by 2030, at a CAGR of 7.3% during the forecast period.¹

The agriculture industry is growing rapidly with the rise in population, thereby leading to high demand for food. With the ever-increasing demand for food production, agricultural machinery has become an essential part of the farming process. This has resulted in rapid growth of the Agriculture Equipment Market around the world. Farm equipment is designed to improve efficiency of farming operations and achieve higher yields.

The products comprising the Agriculture Equipment industry include the following:

Tractors	<ul style="list-style-type: none"> •Based on Horsepower •based on Type
Plowing and Cultivating Machinery	<ul style="list-style-type: none"> •Plows •Harrows •Cultivators and Tillers •Other PLOWing and cultivating machinery
Planting Machinery	<ul style="list-style-type: none"> •Seed Drills •Planters •Spreaders •Other Planting Machinery
Harvesting Machinery	<ul style="list-style-type: none"> •Combine Harvesters - Threshers •Forage Harvesters •Other Harvesting Machinery
Haying and Forage Machinery	<ul style="list-style-type: none"> •Mower Conditioners •Balers •Other Haying and Forage Machinery
Irrigation Machinery	<ul style="list-style-type: none"> •Sprinkler Irrigation •Drip Irrigation •Other Irrigation Machinery

Amongst Agricultural Equipment, the Tractor segment accounted for the largest revenue share of over 30% in 2021. This is clearly as a result of the increasing global food requirements, which has made tractors a prerequisite for increasing productivity in the agriculture industry.

The promotion of farm mechanization and the increasing adoption of precision farming in regions such as Asia Pacific and Latin America have also accelerated the growth. The emergence of electric tractors is anticipated to be a significant growth prospect for market participants. The growth is ascribed to the cost-effectiveness coupled with electric tractors' eco-friendly and high-efficiency attributes.²

¹ <https://www.fortunebusinessinsights.com/agriculture-equipment-market-102665>

² <https://www.grandviewresearch.com/industry-analysis/agriculture-equipment-market>

One of the key market drivers for the Agri Equipment industry is the increasing rate of mechanization in developing countries. Developing nations still have a considerably low penetration level. For example,

China, in 2020 had only 22 million tractor units despite the much larger population engaged in agriculture³. Hence, the farm mechanization holds a lot of potential in such markets.

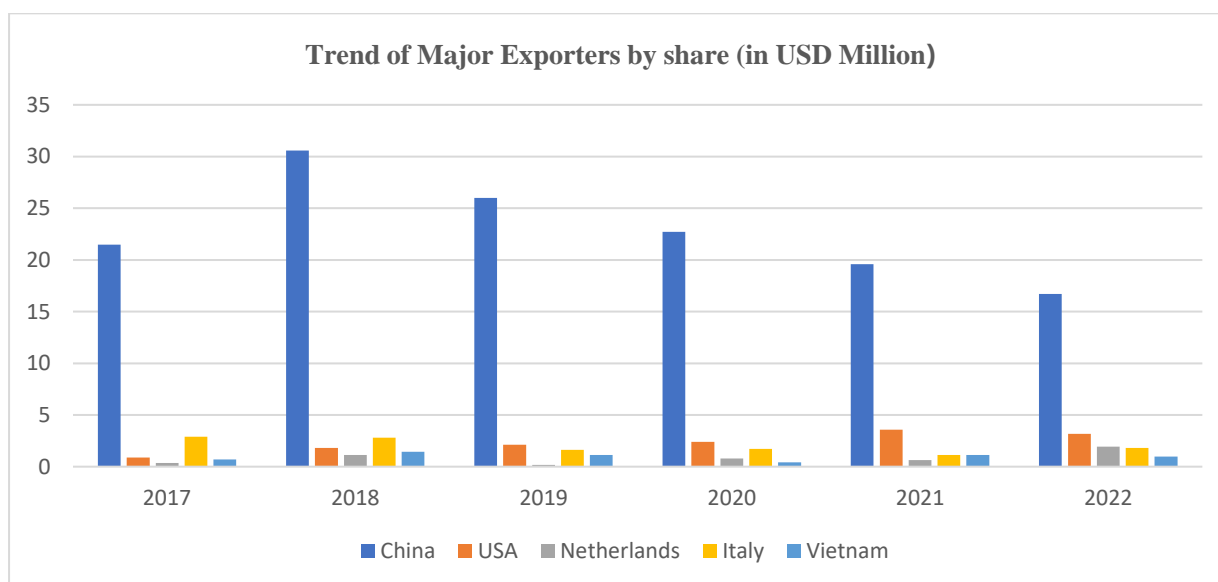
Among the global markets, the Asia Pacific market has the highest revenue share of nearly 37.5% as of 2022⁴. The Asia Pacific market is expected to grow at a higher rate owing to the economic growth and stability of China, India and other Agro- based countries within the region. Increased GDP, rising per capita income, inclination towards mechanization and government initiatives for promotion of agriculture equipment has created more opportunities growth of Agri equipment in these regions.

China is the largest global market as a result of tremendous opportunities for agriculture equipment manufacturers.

A case in point is that the government of India is providing subsidies and other benefits to the farmers to promote mechanization. For instance, the Government of India decided to aid the farmers and provide a 50% to 80% subsidy for the procurement of agriculture equipment.

As a result, the Agri equipment manufacturers are further trying to bring in more innovative products that are more suitable for the market of India, South Korea, Taiwan and other countries within the region.

China, USA, Netherlands, Italy and Vietnam were among the top players of the market in 2022, where China acquired the largest market share of 60.9% with a shipment value of 16.7 million USD in 2022 China also offered the product above the average market price, but remained at the leadership position indicating the trust it holds in the Agriculture Equipment Market⁵.



Source: <https://www.6wresearch.com/industry-report/india-agriculture-equipment-market-2019-2025>

Moreover, although mechanization in agriculture was adopted in the region of North America multiple decades ago, the agriculture equipment in North American is expected to grow at a considerable rate. The North

³ <https://www.mordorintelligence.com/industry-reports/agricultural-machinery-market>

⁴ <https://www.globenewswire.com/en/news-release/2023/03/21/2630973>

⁵ <https://www.6wresearch.com/industry-report/india-agriculture-equipment-market-2019-2025>

American agricultural machinery market is projected to register a CAGR of 7.9% during the forecast period (2023-2028)

According to the Association of Equipment Manufacturers (AEM), the total number of tractors and combines sold in 2021 in North America was 360,000 units. That year, there was a sale increase of over 10% in nearly every segment of agricultural tractors and combines in the United States and Canada.⁶

Factors such as shortage of labour, increasing demand for high-capacity machines due to large farms, increasing demand for automatic machines, etc. have contributed to the growth potential in the North American Market.

Financial aid provided by the respective governments in the Middle East, Africa and Brazil has facilitated the growth of agriculture equipment market in these regions as well.

For instance⁷,

- the Saudi Arabian Agricultural Bank (SAAB) and the ministry of Agriculture initiated providing interest free loans and technical services to facilitate the duty-free import of advanced agriculture equipment and machinery.
- As stated in the sustainable development goals indicated in Agenda 2063, the African Union Commission (AUC) and the Food and Agriculture Organization of the United Nations (FAO) view agricultural mechanization as an immediate indispensable action for attaining the “Zero Hunger” vision by 2025.
- A delegate of the Tennessee Department of Agriculture has recently launched a tax waiver program for farm machinery to make them affordable and mechanization more accessible for farmers in the country.
- The European Commission has adopted biodiversity strategies and has provided directives for the removal of farmlands available for agricultural use by about 10% by the end of 2030. Therefore, to retain the production pace of farmlands, the farmers/agriculturists may switch to advanced farm equipment.

North American Market

The presence of extensive farmland in the region has led to high demand for farm mechanization over the years. Furthermore, the North American region is currently seeing an increase in the use of smart combine harvesters equipped with monitoring technologies to boost farm production.

Rising labour costs, the incorporation of robotic systems and GPS in tractors and harvesters, increased demand for high-capacity machinery due to large farms, and the increasing popularity of self-propelled machines are expected to drive market growth during coming years. The US-based agricultural machinery companies like John Deere have begun enhancing the AI-based innovation process in tractors. Such innovations are expected to drive the demand for technologically advanced tractors in the long term.

Farmers in the USA have been able to avail timely subsidies in the form of agriculture equipment loans at flexible interest rates and repayment schedules. This, in turn, has helped even small-scale farmers to invest on primary agricultural equipment. The US government extends loans for farm equipment through USDA Direct Operating Loans, USDA Operating Microloans, and USDA Guaranteed Operating Loans. The farmers inclination toward technology due to easy loans and to enhance productivity has resulted in double-digit gains for various machineries, thus fuelling the market growth in the region.

⁶ <https://www.mordorintelligence.com/industry-reports/north-america-agricultural-machinery-market>

⁷ <https://www.fortunebusinessinsights.com/agriculture-equipment-market-102665>

Major Players: The Agri Equipment industry is highly consolidated with the top 5 players having a high market share⁸



JOHN DEERE

John Deere

- John Deere is the brand name of Deere & Company, an American Corporation that manufactures agricultural, construction, and forestry machinery, diesel engines, drivetrains used in heavy equipment



Kuhn Group

- Agricultural requirements are rapidly evolving and the need for top quality agricultural items remains integral. With its 190 years of experience in manufacturing agricultural equipment, The Kuhn Group offers the global community of farmers everyday items that are essential for their work. Machines are sold for Crop Establishment, Crop Protection, Hay & Forage and Livestock solutions, among others, and the company has production sites in France, the USA, Holland and Brazil.

CLAAS

CLAAS KGaA mbH (CLAAS)

- As one of the top agricultural engineering equipment manufacturers, CLAAS is working hard in over 140 countries, with 12,000 employees, to keep the sector running. Its high-tech products – such as harvesters, tractors and balers – meet the increasing demand from farmers for energy-efficient equipment. CLAAS' machines are equipped with smart technology to help farmers communicate, coordinate their work and deliver on time. The company is on a mission to shape the development of electronics and software.



GEA Group

- Founded in 1881 and headquartered in Düsseldorf, Germany, GEA Group supports farmers with their milking robots, automated processes, digitalisation and smart solutions for sustainable milk production.
- GEA Group's DairyRobot R9500 is engineered to make the milking process easier for the cow and make a more efficient use of dairy farmers' time.

LOVOL

Lovol Heavy Industry Co., Ltd.

- Established in 1998 and headquartered in Tianjin, China, LOVOL Heavy Industry Co., Ltd. manufactures off-road mobile machinery used in agriculture, as well as construction. It has 15,000 employees and engineering bases across Europe and Japan, as well as manufacturing bases in Europe and Russia.
- In China, LOVOL is celebrated as a 'National Key High-Tech Enterprise', and its top equipment has been awarded titles such as 'Chinese Famous Brands' and 'Most Competitive Brand'.



AGCO Corporation

- AGCO Corporation is an American agricultural Equipment manufacturer with its headquarters in Duluth, Georgia and United States. Company manufactures equipments such as Tractors, combines, self propelled sprayers, hay tools, Forage, etc.



TTQ

- Headquartered in Toowoomba, Queensland, TTQ was founded in 1996. It offers equipment for the farming industry that is new or used, as well as providing an option to hire a large range of quality parts. All of these items are primed for the tough Australian conditions, because TTQ is passionate about durability, which feeds into sustainability. High-grade steel is used not just for strength, but also to make its equipment last longer



Fullwood

- Fullwood aims to support the dairy sector by uplifting welfare standards for animals as well as farmers. Fullwoods top service agility and intelligent manufacturing helps farmers maintain herds of healthy and productive cows.
- Established in 1785, Fullwood has global operations in Belgium, Czech Republic, France, Ireland, Netherlands and the UK. Its milking machine was built in 1948, helping dairy farmers to work more efficiently.



JCB

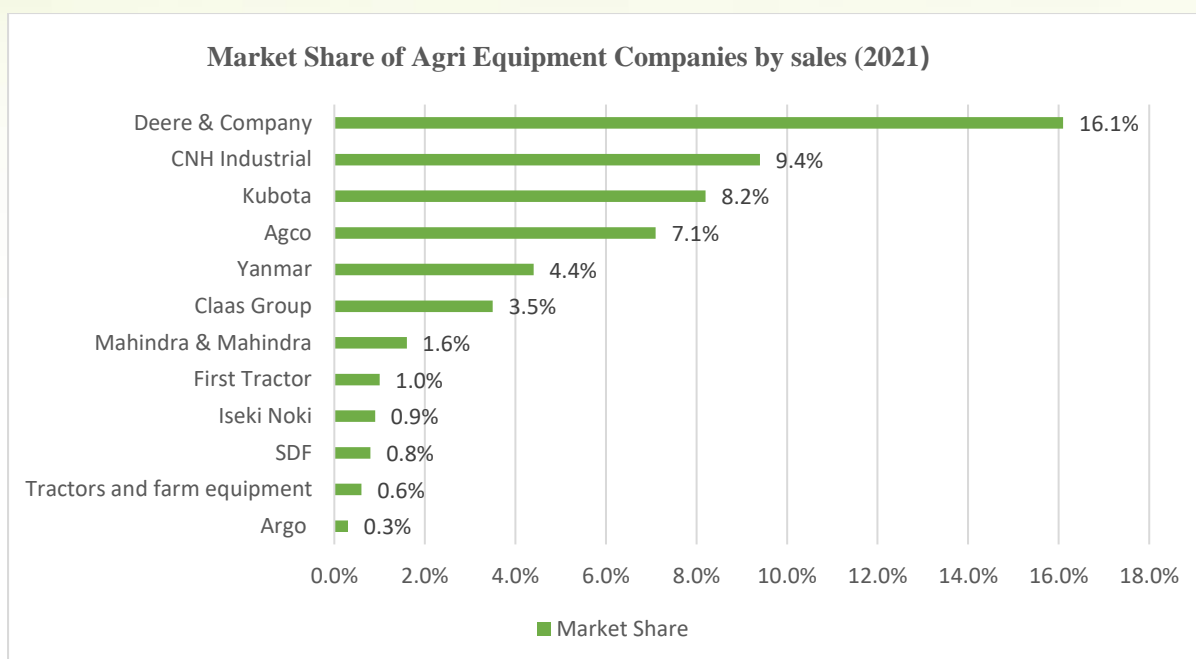
- JCB is the world's third biggest manufacturer of construction machinery and the largest privately-owned engineering and manufacturing company in the UK. Its machinery is instantly recognisable in the agriculture sector, but the company also has stakes in construction, power generation and more, with machines on the ground in more than 150 countries. JCB employs over 15,000 people across the world and produces hundreds of products – but it is the iconic yellow tractor that consumers will be most familiar with.



Wagner Systems Inc.

- The automation machinery manufacturing company Wagner Systems Inc. makes protective coating for equipment used across the 'ACE&T' market (Agriculture, Construction, Earthmoving & Transportation). The company has the highest regard for safety requirements, as well as quality.
- The 'ACE&T' market includes forklift trucks, tractors and combine harvesters, as well as trucks, buses and mobile homes.

⁸ <https://manufacturingdigital.com/technology/top-10-agricultural-equipment-manufacturers>



Source: <https://www.statista.com/statistics/1344844/global-market-share-of-agricultural-machinery-manufacturers/>

Key Market Drivers:

1. Increasing demand for food:

The population of the world has been rising consistently and there is increasing pressure to produce more food. In a report released in 2019, the United Nations Department of Economic and Social Affairs predicted that the world's population would increase to 8.5 billion by 2030 and 9.7 billion by 2050. More than 820 million people were undernourished in 2018, according to data from the Food and Agriculture Organisation of the United Nations (FAO). This puts pressure on the agriculture sector to produce enough food for the increasing population. This need for higher efficiency in the food producing sector has led to greater demand of tools and equipment (farm mechanization). Farm mechanization refers to the development and use of machines that can take the place of human and animal power in agricultural processes. As a result, the industry is seeing a significant amount of innovation and growth, with companies developing new and more efficient machines that can improve crop yields and reduce labor costs.⁹

2. Need for sustainable farming practices:

Sustainable farming practices have gained momentum due to growing environmental awareness. Equipment designed to reduce soil erosion, minimize chemical usage and improve energy efficiency is becoming more important to farmers and industry.

By adopting sustainable practices, farmers will reduce their reliance on non-renewable energy, reduce chemical use and save scarce resources. Keeping the land healthy and replenished can go a long way when considering the rising population and demand for food.¹⁰

3. Government Incentives

The subsidies provided by the governments of many countries help to ensure enough food production, lower the inflation rate for food commodities, protect farmer incomes, and strengthen the agricultural industry. Developing countries like India offer a variety of subsidies, debt waiver programs, and other

⁹ Alliedmarketresearch.com

¹⁰ IBM Blog and Allied Market research report on Agriculture equipment market

such services to increase the production. For instance, the Government of India decided to aid the farmers and provide a 50% to 80% subsidy for the procurement of agriculture equipment.

4. Ability of market players to bring in new innovative technology and help in precision farming

The use of technology such as Robotic systems and Global Positioning Systems (GPS) in tractors and harvesters which has led to use of self-propelled machinery address the issues of shortage of labour / rising labour costs. Moreover, innovative technology leading to increased fuel efficiency which has a direct impact on operational profitability will become a major factor for choice of equipment going forward.

The precision agriculture market is estimated to touch USD 15.6 billion by 2030.¹¹

The Increasing pressure to produce food sustainably for a rapidly growing population is one of the greatest challenges facing humanity today. Precision Agriculture leverages advanced digital technologies and will play a significant role in the third modern farming revolution. It effectively minimizes inputs, labor, and time sustainably, maximizes productivity and profitability, ensures sustainability, and reduces environmental impact.

Key Industry Developments:¹²

April 2023: H&R Agri Power Acquired Kubota's dealership located in McMinnville, Tennessee. The company's 20th and 7th most important locations would broaden its market in this region. The newly acquired dealership would help to acquire a larger consumer base with dealership network expansion and diverse product offerings.

November 2022: John Deere widened its tractor lineup with the newly added 5EN and 5ML Series. Tractors are highly efficient in operating narrow orchards and vineyards and would enable monitoring, managing and maximizing performance with higher profitability from businesses.

May 2022: AGCO Corporation, a leading global distributor and manufacturer of agriculture equipment, machinery and precision agriculture technology, acquired JCA Industries, Inc., which is a leading provider of autonomous software for farm equipment and electronic systems. The acquisition would allow AGCO Corporation to utilize JCA technologies precision agriculture software in its agriculture machinery which will improve the experience of customers of AGCO Corporation.

February 2022: CNH Industrial, a leading agriculture technology provider, made a strategic investment towards CNH Industrial Ventures. The new CNH Industrial Ventures would play a pioneering role in the company to boost customer experience and increase productivity. CNH Industrial Ventures would expand research and focus on areas such as digitization, robotics, autonomous vehicles and other technologies.

January 2022: New Holland Tractors, a leading provider of heavy-duty tractors, partnered with Alamo Group. This would allow New Holland to provide a pre-dispatched package of agricultural auxiliary equipment of Alamo Group along with new Holland Tractors. Moreover, through this partnership, New Holland Tractors can expand to offer solutions in various applications with complimentary tractors in one packaged deal.

The global agriculture equipment market is a dynamic and rapidly growing industry that plays a crucial role in modern agriculture.

In today's world, where precision and speed are the key requisites, agricultural equipment has become indispensable. Farmers rely on advanced machinery to streamline their operations, optimize resource utilization, and meet the growing demands of a global population.

¹¹ <https://www.cropin.com/precision-agriculture>

¹² <https://www.fortunebusinessinsights.com/agriculture-equipment-market-102665>

The use of sophisticated technologies such as GPS navigation systems, sensors, robotics, and data analytics has revolutionized the agriculture equipment industry. These innovations have enabled farmers to make data-driven decisions, monitor crop health in real-time, apply fertilizers with precision, and automate various tasks.

Moreover, agricultural equipment manufacturers are continuously investing in research and development to introduce more efficient and sustainable solutions. From tractors to harvesters to irrigation systems, these advancements aim to minimize environmental impact while maximizing output.

In summary, the global agriculture equipment market is witnessing remarkable growth due to its pivotal role in modern farming practices.

Global Tractor Industry

The global tractor market is projected to grow from USD 78.98 billion in 2023 to USD 104.69 billion by 2030, at a CAGR of 5.80% during the forecast period¹³.

Tractor has been one of the most essential machineries in mechanising the agriculture activities globally. The tractors are used from ploughing, preparing seed bed for plantation to harvesting. They can also be attached to other farm equipment for usage and therefore the demand of tractor has always been high. The reach of tractor is immense from the developed world to developing gradually.

Demand for Tractors

The tractor market along with other markets was severely impacted during the Covid-19 pandemic due to lockdowns and poor supply chains. The tractor sales went down in most countries such as 7.6% in United States, 4.9% in Europe, 11.5% in India, 6.2% in Russian Federation and 28.8% in Japan¹⁴. The demand for tractors since 2020 saw a positive growth since economies reopened, supply chains being restored and pro-active government initiatives in various countries to increase farm mechanisation and technological innovations by companies.

The global Agri-tractor demand findings were at 3014 thousand units in 2022 and it is anticipated to reach nearly 5422.91 thousand units by 2032¹⁵.

Other Key findings¹⁶:

- The Asia Pacific region captured more than 67% of the revenue share in 2022, in terms of volume.
- By engine power, the less than 40 HP segment generated more than 63% of revenue share in 2022.
- By driveline type, the 2-wheel drive segment captured more than 80% of revenue share in 2022.
- By application, the irrigation segment is predicted to contribute to the maximum market share.
- By operations, the automatic tractor-vehicle segment is projected to hold the biggest market share.

Tractor Segmentation

The global tractor market is broadly segmented on the basis of horsepower, drive type and geography. The developed nations have demand for higher range in horsepower whereas the developing world has high demand for less than 40 HP. 2-wheel drive is more preferable than 4-wheel drive as it has a share of more than 75% of the market owing to high demand in countries such as India, China, African region etc.

Asia-Pacific region has been leading the global tractor market with a share of more than 69% in 2022¹⁷. The growth is primarily led by countries like India and China followed by other countries of the region.

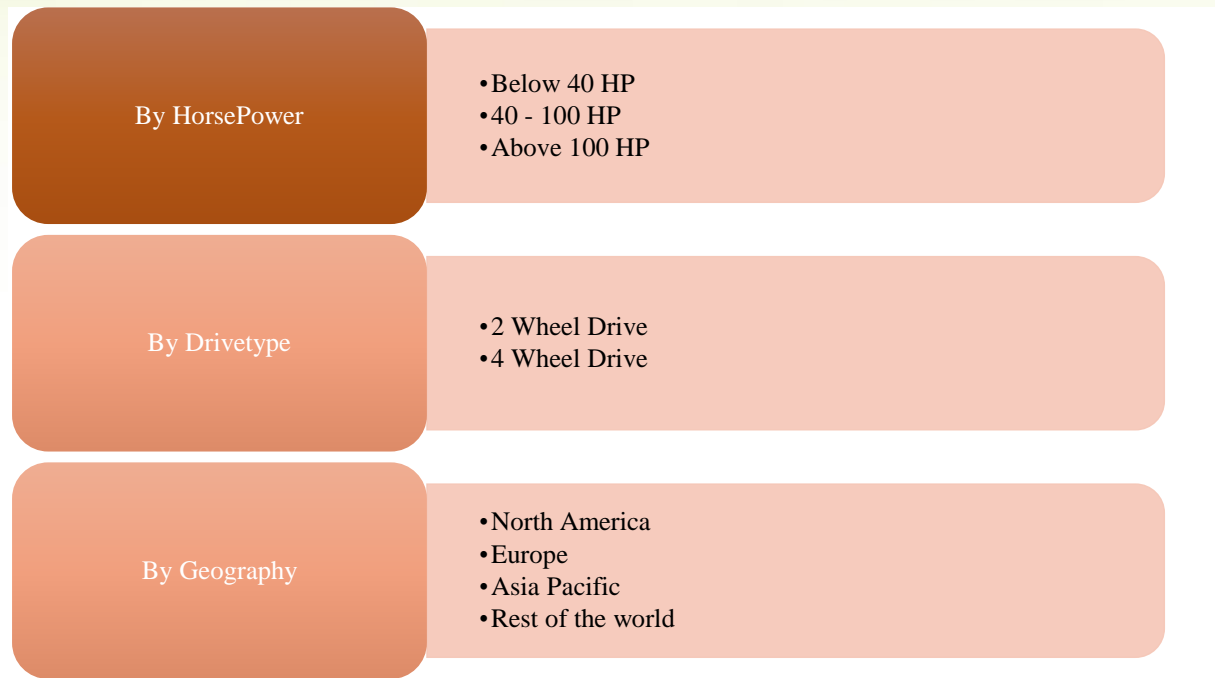
¹³ Tractor Market Share & Size (mordorintelligence.com)

¹⁴ Global Tractor Market Size, Share & Industry Analysis 2028 | BlueWeave (blueweaveconsulting.com)

¹⁵ Agricultural Tractors Market Demand, Growth, Report By 2032 (precedenceresearch.com)

¹⁶ Agricultural Tractors Market Demand, Growth, Report By 2032 (precedenceresearch.com)

¹⁷ Agricultural Tractor Market Size, Share & Trends Report, 2030 (grandviewresearch.com)



Major Players

The market in the tractor segment appears concentrated by big players with the majority share belonging to them. The remaining share of the market is fragmented and highly competitive with small players.

Some prominent players in the global agricultural tractor market include²³:



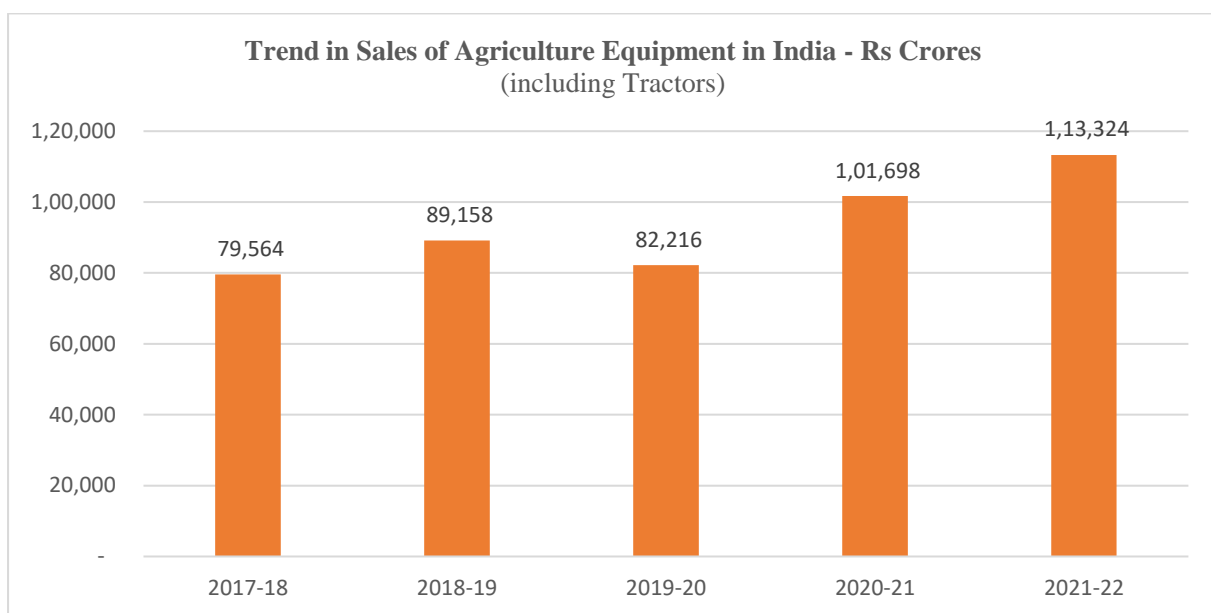
²³ Agricultural Tractor Market Size, Share & Trends Report, 2030 (grandviewresearch.com)

Domestic Farm Equipment Market

Farm Agri-equipment are the machines, tools, and devices that are used to provide aid in farming and other agricultural activities. These tools are used in farms for completing agricultural tasks in a faster, more efficient, and convenient manner. They can be used for agricultural activities of any scale and are available in a variety of sizes and price points.

Market Size:

- The India Agricultural Machinery Market size stands at around USD 15.42 billion as in 2023. It is expected to grow to USD 23.18 billion by 2028 at a CAGR of 8.5 per cent²⁴.



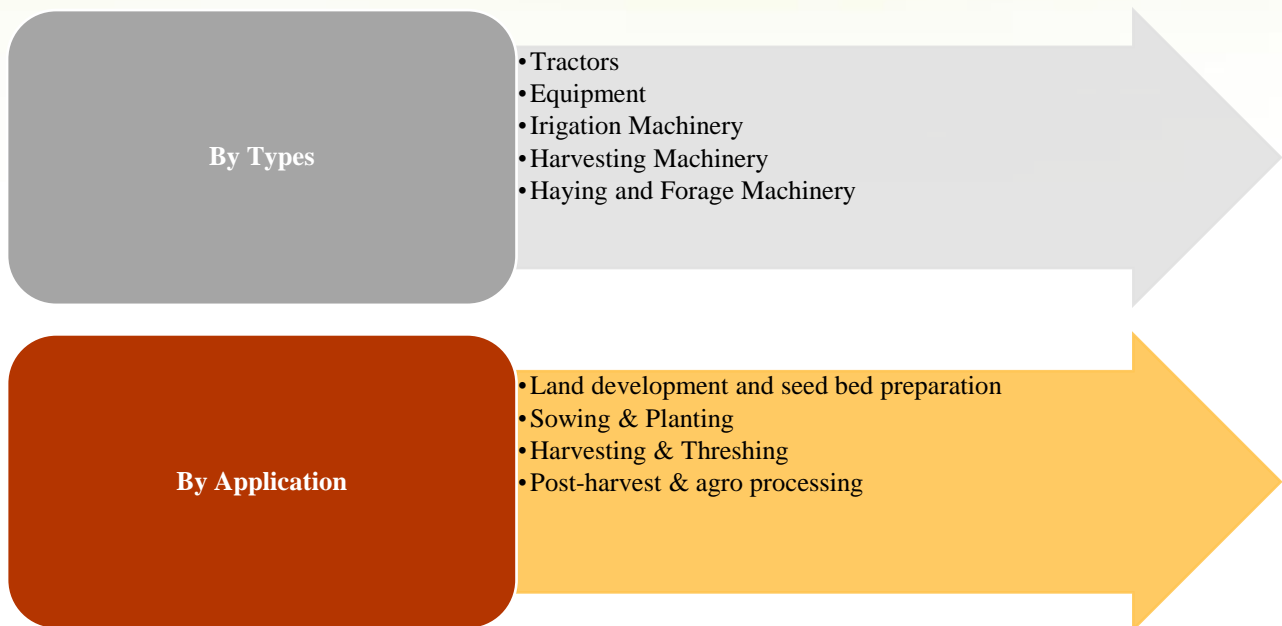
Source: CMIE, B2K Analytics

The Indian agricultural equipment sector has shown good growth historically and the same is expected to continue in coming years also. The growth will be led by tractors and will be supported by various initiatives of Govt. of India. Various demand drivers of this industry have been discussed separately in later sections of the report.

²⁴ Mordor Intelligence

Market Segmentation:

The India Agricultural Machinery Market can be segmented as per below:

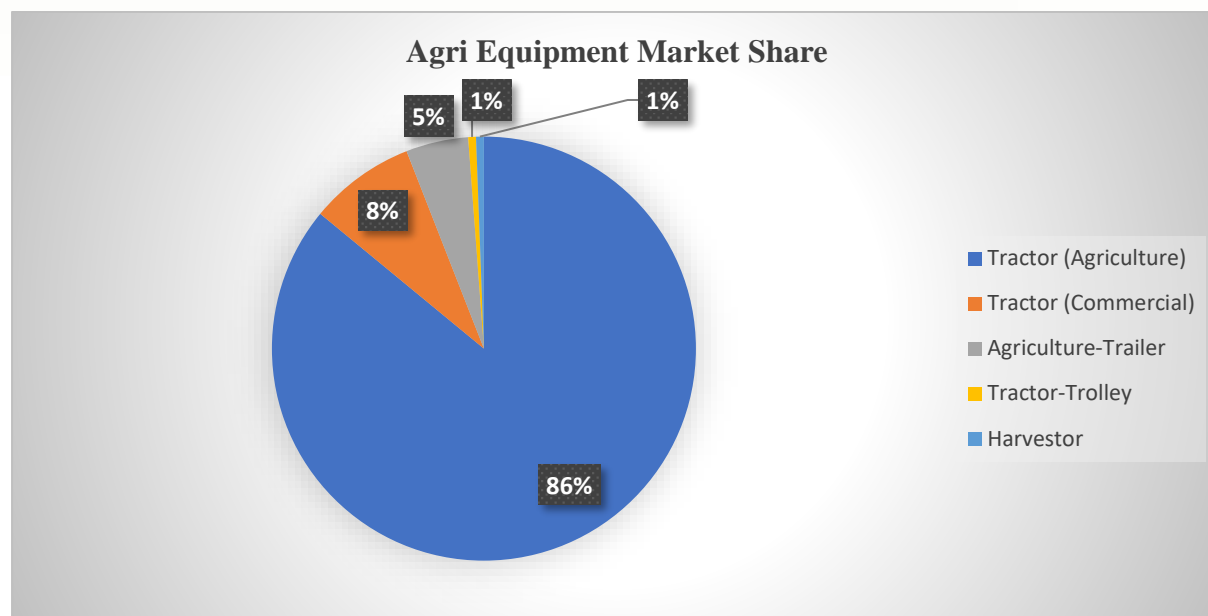


Different types of agricultural machinery are as under:

Tractors	Equipment	Irrigation Machinery	Harvesting Machinery	Haying and Forage Machinery
<ul style="list-style-type: none"> • Less than 30 HP • 31 to 50 HP • 51 to 80 HP • More than 80 HP 	<ul style="list-style-type: none"> • Plows • Harrows • Rotovators & Cultivators • Seed Drills 	<ul style="list-style-type: none"> • Sprinklers • Drippers 	<ul style="list-style-type: none"> • Combine Harvestors • Forage Harvestors 	<ul style="list-style-type: none"> • Mowers & Conditioners • Balers

Agricultural Machinery Market Share

The agricultural machinery market is dominated by tractors. As per the vehicle registration data available, agricultural tractors occupies 86% of market share. This is followed by commercial tractors 8% and then by agricultural trailers 5%. Tractor trolley and harvester occupies a market share of 1% each.



Note: The above data has been compiled only for Agri equipment which needs registration with transport offices. Agri equipment which does not require registration have not been included in the above representation.

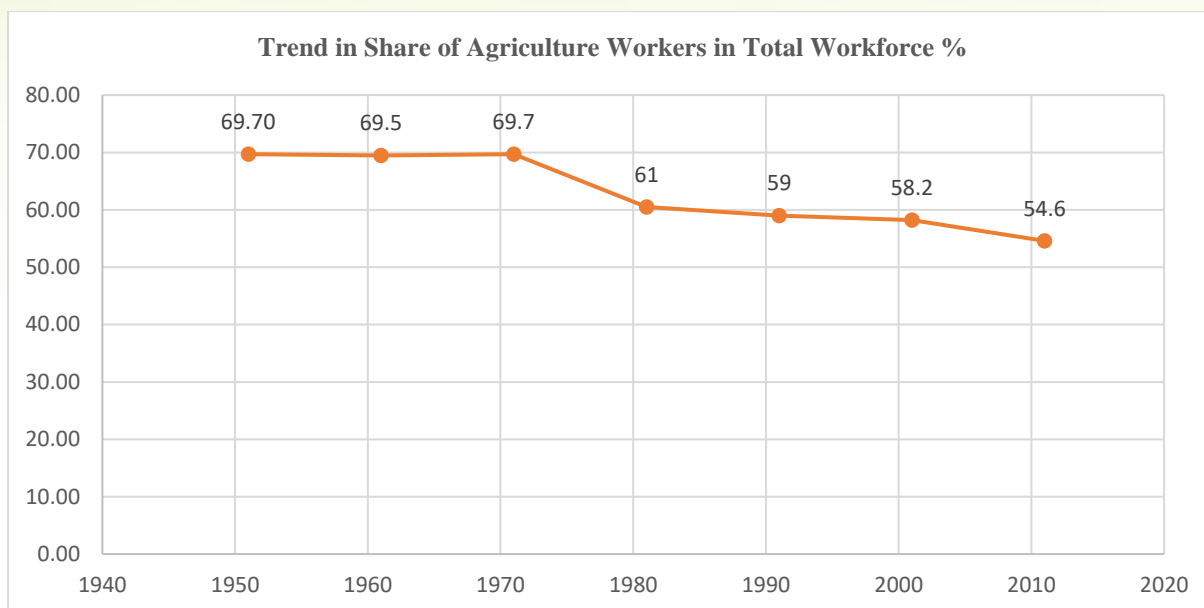
Source: CMIE, B2K Analytics.

Demand Drivers:

- **Shortage of Labour:**

In India, agriculture has experienced a significant decline in animate power (animal and human) utilization. The share of animate power in agriculture is estimated to decrease from 59.1% in 1991 to 25.7% by 2050²⁵. The shortage of agricultural labour has resulted in the adoption of mechanized equipment among farmers to increase agriculture efficiency and crop productivity. Thus, the demand for agricultural equipment is increasing. Hence, the rising labour shortage is driving the growth of the Indian agriculture equipment market.

²⁵ Source: Vision 2050 Document of Central Institute of Agricultural Engineering, Bhopal



Source: Registrar General of India, National Informatics Centre, B2K Analytics

- **Increased availability of credit:**

Increased availability of credit through banks and microfinance institutions, to invest in agricultural equipment has also resulted in market growth.

- **Government Incentives and Policies**

Subsidies, reduced import taxes on agricultural gear and simple financing plans, are also driving the demand for farm equipment in India.

- **Increase in Farmers Income**

The income levels of rural households have been steadily rising over the past few years as a result of growth in India's GDP and growth in agricultural sector. With rising income the farmers are able to increase their spending on agricultural machinery.

- **Low penetration of farm machinery**

Penetration of Agri equipment continues to be still low despite recent good growth. Total farm mechanization in India has been lower at 40-45% compared to other countries such as USA (95%), Brazil (75%) and China (57%)²⁶. Hence, there is good scope for further growth.

²⁶ <https://mobilityforesights.com/product/farm-tractor-market-in-india/>

Penetration of Mechanization across Farm Operations

S.No.	Operation	Penetration of Mechanization (%)
1	Seed Bed Preparation and Soil working	40
2	Seeding and Planting	29
3	Plant Protection	34
4	Harvesting and Threshing	60-70 for wheat and rice but less than 5% for others

Source: National Council of Applied Economic Research (NCAER)

- **Emergence of Contract Farming**

The emergence of contract farming is also expected to give a strong boost to the agricultural equipment market in India. Contract farming enables farmers to get the benefit of technology, training and financing with the contractor's support. This is expected to facilitate the adoption of mechanized farming practices²⁷.

- **Adoption of precision farming**

Adoption of precision farming techniques in India is again expected to increase the demand for Agri equipment. The adoption of precision farming methods is still at a low level in India compared to the developed countries²⁸.

Competitive Landscapes / Major Players / Market Share:

Level of Competition: The Indian agricultural machinery market (excluding tractors) is consolidated. Top players occupy maximum share of the market.

Major Players:

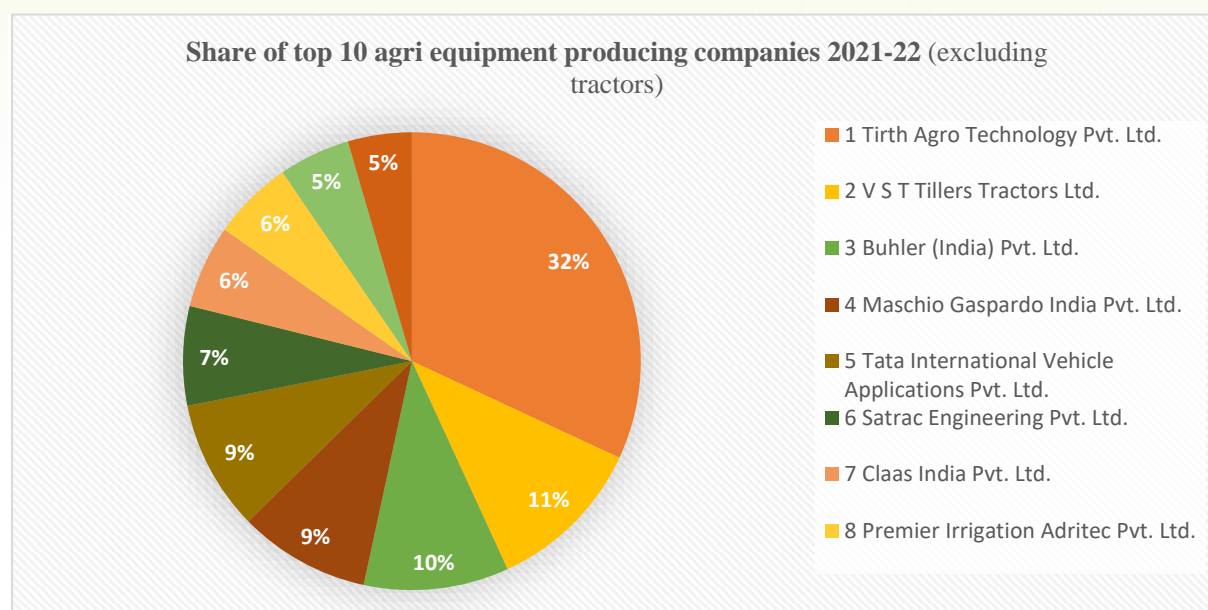


Tirth Agro (Shaktiman), VST Tillers, Buhler India, Tata International Vehicle Applications etc. are some of the major players in the Indian Agri equipment market (excluding tractors).

²⁷ <https://www.imaregroup.com/farm-agricultural-equipments-industry-india>

²⁸ <https://www.expertmarketresearch.com/reports/india-farm-agri-equipment-market>

Below is the market share of top 10 players in Indian Agri equipment market (excluding tractors):



Note: The above representation is excluding tractors. Tractors constitute very large segment of Agri equipment industry and hence has been dealt separately in later parts of the report.

Source: CMIE, B2K Analytics.

Govt Initiatives:

One of the major drivers of the Indian agricultural machinery market include favourable government policies.

Making India a Global Powerhouse on Farm Machinery Industry: National Council of Applied Economic Research (NCAER) released the report “Making India a Global Powerhouse on Farm Machinery Industry” in Feb 2023.

- NCAER has analysed the non-tractor farm machinery industry from both demand and supply side perspectives.
- The report has highlighted the challenges in the sector and has also recommended measures & reforms by benchmarking global practices.
- It has been emphasized in the report that India needs a vision for the next 15 years to convert itself into a production and export hub for non-tractor farm machinery²⁹.

SMAM Scheme: The Government of India launched a unique program called "Sub Mission on Agricultural Mechanization (SMAM)" in 2014–15 to increase farm mechanization across the nation.

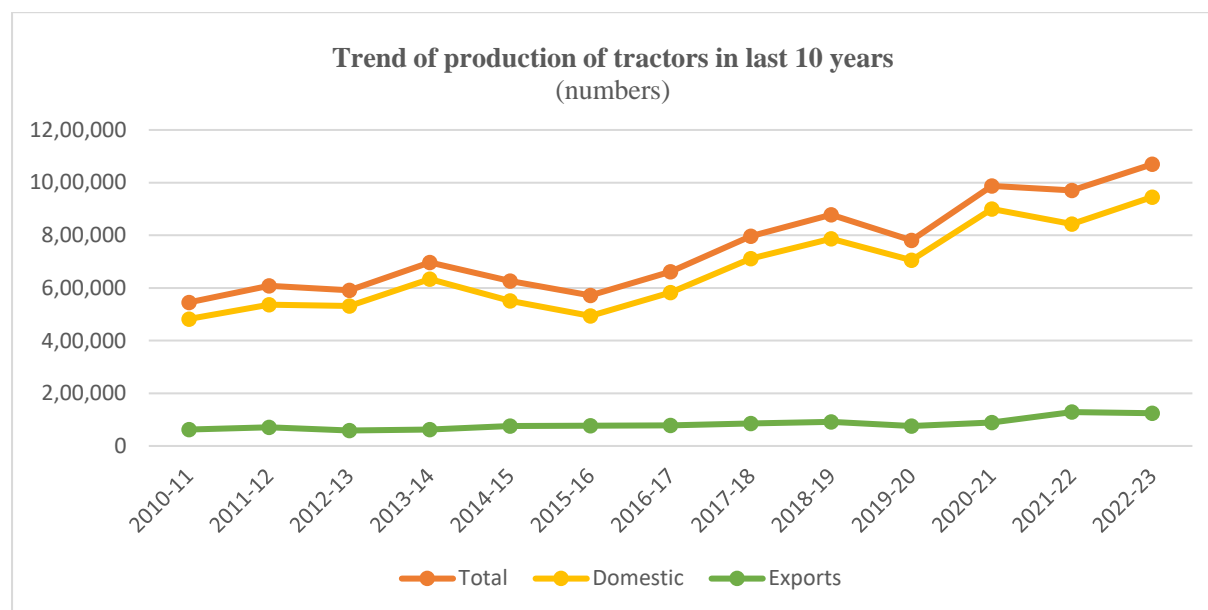
- **USD 554.9 million allocated:** A total of INR 4556.93 crores (USD 554.9 million) in funds have been made available under the scheme to the States and other implementing institutions between 2014–15 and 2020–21.
- More than 27.5 thousand custom hiring institutions have been founded, and more than 13 lakh agricultural machines have been provided.
- The budget for SMAM increased from the prior year to INR 1050 crore (USD 127.7 million) for 2021–22.

²⁹ <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1897076>

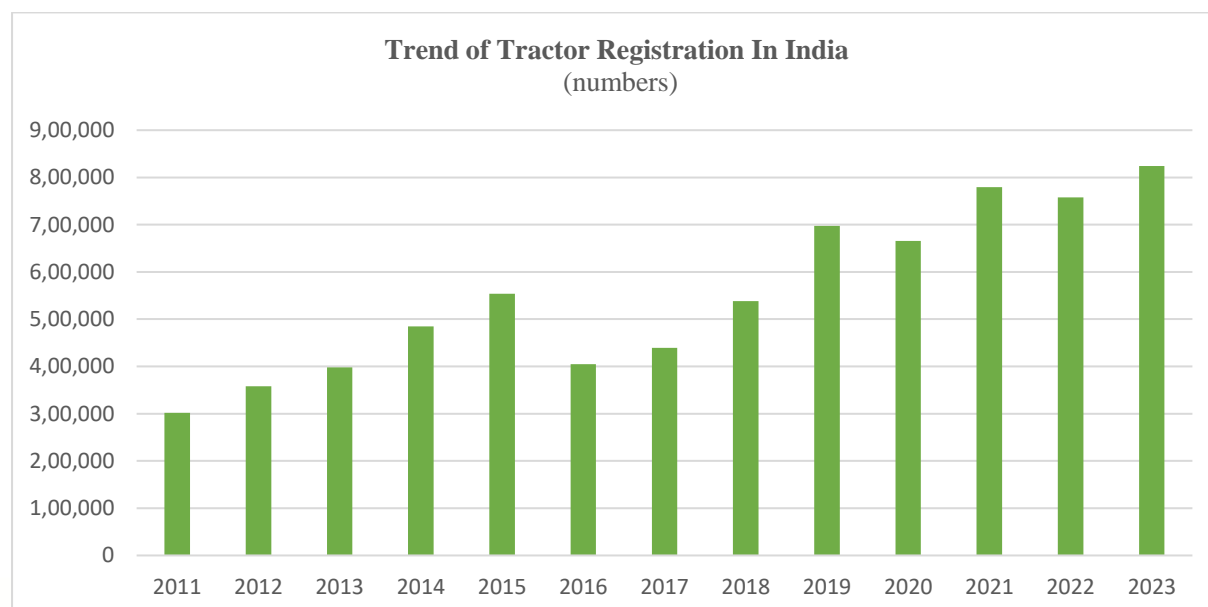
Domestic Tractor Market

Market Size:

The India tractor market size was evaluated to be at \$7.54 billion in 2020 and has been anticipated to reach \$12.7 billion by 2030³⁰. The Indian tractor market has been growing over the years. Today India is one of the largest Tractor producing countries of the world.

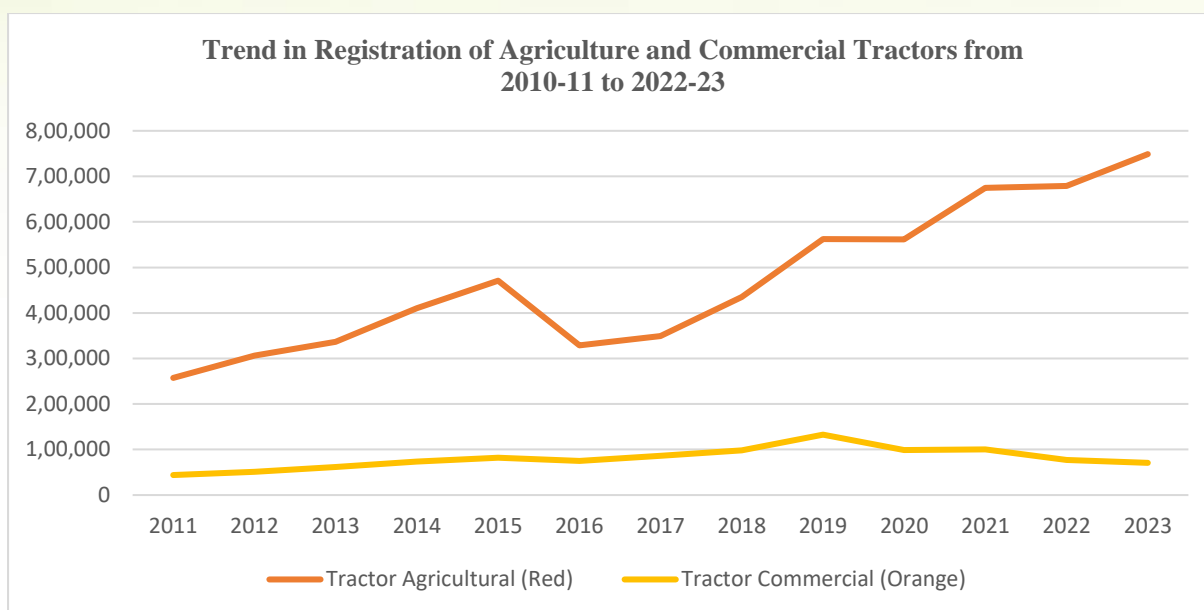


Source: CMIE, B2K Analytics



Source: CMIE, B2K Analytics

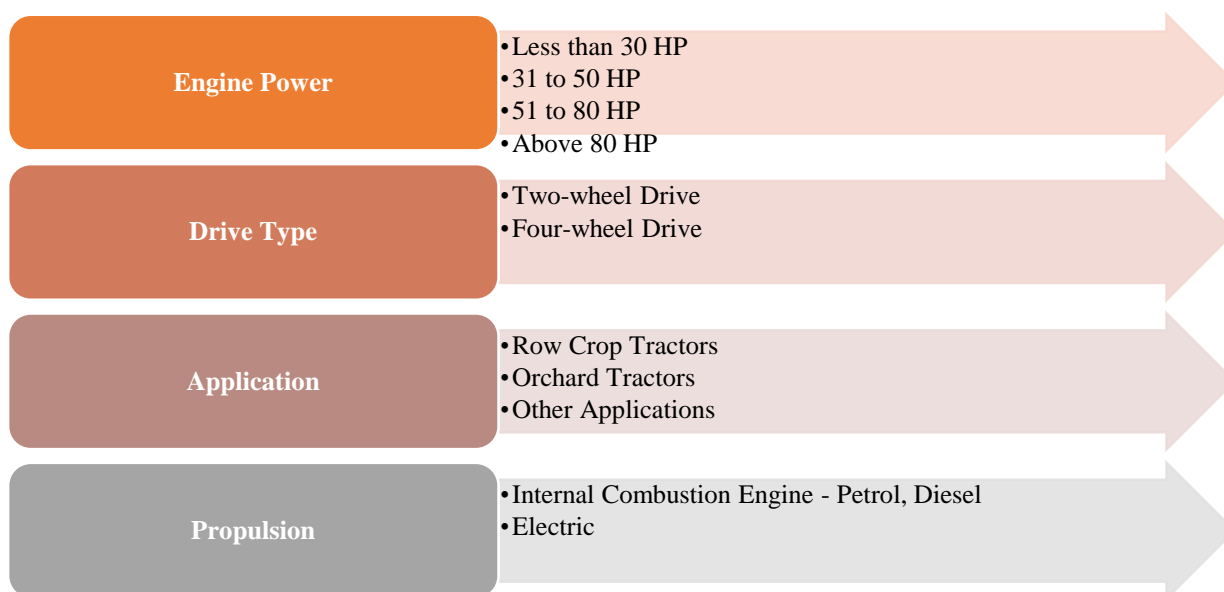
³⁰ India Tractor Market Trends, Analysis, Forecast 2030 (alliedmarketresearch.com)



Source: CMIE, B2K Analytics

As per above figures, the Indian tractor market has shown impressive growth historically and the same is expected to continue in future years also. This growth will be fuelled by various initiatives of Govt. of India to boost agricultural productivity. Various demand drivers of tractor industry have been discussed separately in later sections of the report.

Tractor Market Segmentation:



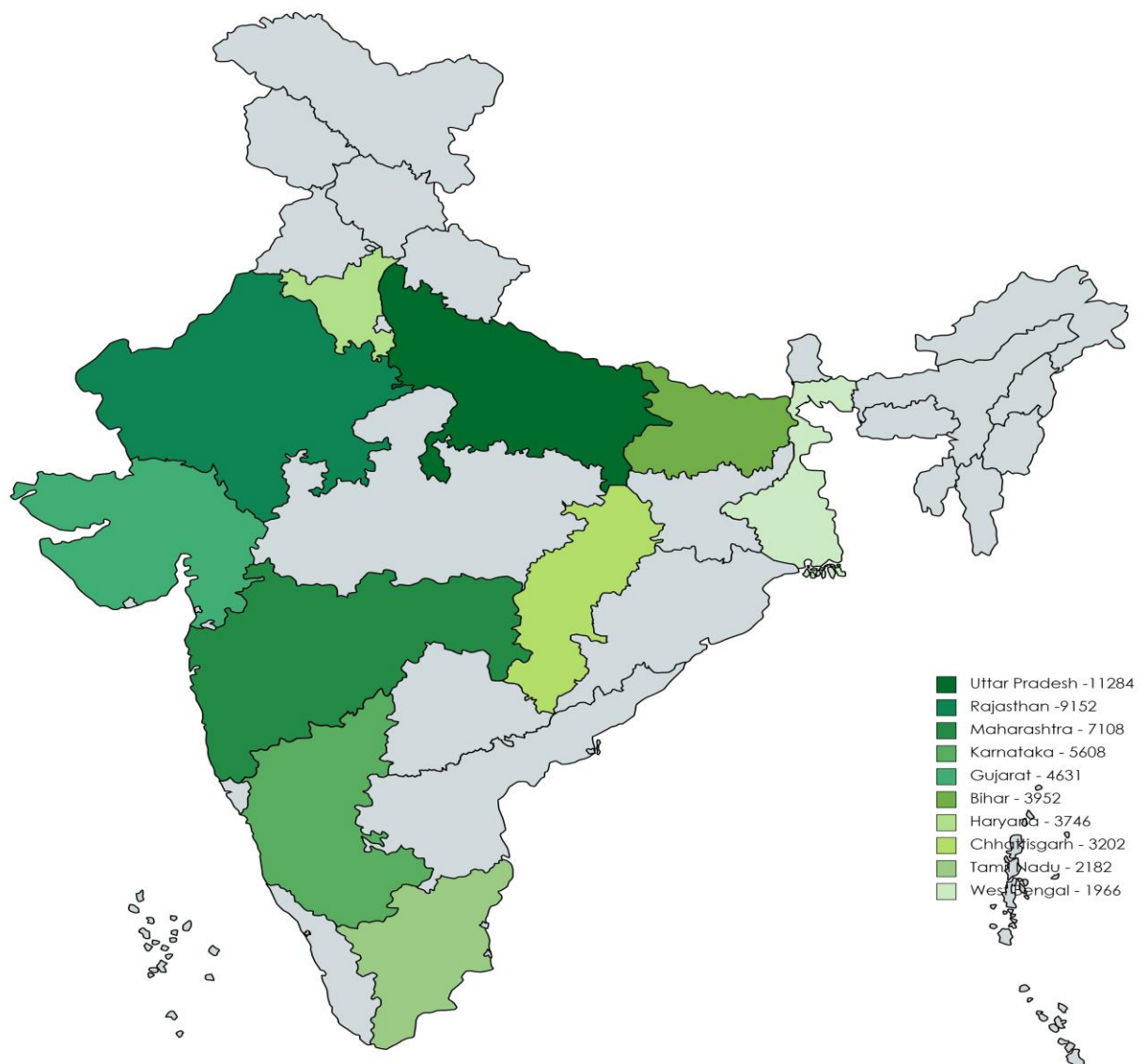
The tractor sales suggest that 80% of tractors sold are in the 31 to 50 HP segment. State Uttar Pradesh occupied the top position in sales with 17.4% of total tractors sold in the country³¹.

³¹ Domestic Tractor Industry in India 2022 - IndianCompanies.in

State-wise Tractor Sales

The States which typically are market to majority of tractors manufactured in India are also the ones which have maximum area under cultivation. Top States with major share of sales of tractor are UP, Rajasthan, Madhya Pradesh, Maharashtra, Karnataka, Gujarat, Bihar, Haryana, Chhattisgarh, Haryana etc.

In UP, 75,817 units of tractors were sold in the period of January to July in 2022. The Brands which shared a good number of sales in the state included, Swaraj, Mahindra, Sonalika and Eicher³². The northern part of India consisting of states such as UP, Rajasthan, Haryana, Madhya Pradesh, Bihar followed by few others like Punjab, Chhattisgarh, Jharkhand dominates the sales of tractor market in comparison to rest of other regions in the country.



Note: The numbers in the legend mark the sale of tractors in the States in July 2022.³³

Source: Tractor Junction, Agriculture post, B2K Analytics

³² Uttar Pradesh registers the highest tractors sold in the state | Auto News, Times Now (timesnownews.com)

³³ UP tops in tractor sales in July; Here's the state-wise and brand-wise break up of sales... - Agriculture Post

Demand Drivers:

The demand drivers of Indian tractor industry are more or less same as that of Agri equipment industry.

- **Shortage of Labour:**

In India, agriculture has experienced a significant decline in animate power (animal and human) utilization. The share of animate power in agriculture is estimated to decrease from 59.1% in 1991 to 25.7% by 2050³⁴. The shortage of agricultural labour has resulted in the adoption of mechanized equipment among farmers to increase agriculture efficiency and crop productivity. Thus, the demand for agricultural equipment like tractors is increasing in India.

- **Increased availability of credit:**

Increased availability of credit through banks and microfinance institutions has also resulted in the market growth. In India majority of the tractors are bought on credit.

- **Government Incentives and Policies**

Govt. of India is actively formulating policies to increase the adoption of various types of farm machineries like tractors. Subsidies and reduced taxes on tractors as well as simple financing plans are driving the demand for tractors in India.

- **Increase in Farmers Income**

The income levels of rural households have been steadily rising over the past few years as a result of growth in India's GDP and growth in agricultural sector. With rising income the farmers are able to increase their spending on agricultural machinery like tractors.

- **Low penetration of farm machinery**

Penetration of Agri equipment continues to be still low despite recent good growth. Total farm mechanization in India has been lower at 40-45% compared to other countries such as USA (95%), Brazil (75%) and China (57%)³⁵. Hence, there is good scope for further growth of tractor market in India. North India currently dominates the Indian tractor market.

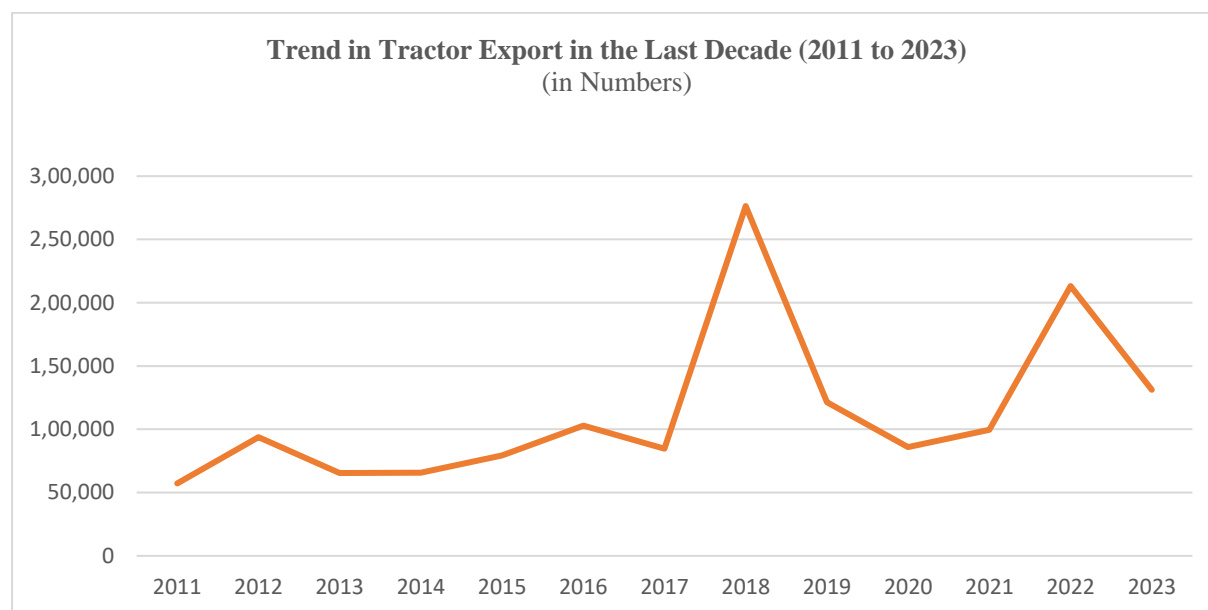
³⁴ Source: Vision 2050 Document of Central Institute of Agricultural Engineering, Bhopal

³⁵ <https://mobilityforesights.com/product/farm-tractor-market-in-india/>

Export Trend and Exporting Destinations

India is dominating as one among the top exporters of tractors in the world despite a low share of exports from the country. It produced a total of 10,71,310 tractors in FY23 and exported only 12.24% of the total production. The exports in FY23 dropped by ~3% on Y-O-Y basis. High base of last year is largely responsible for fall in exports as the FY22 saw a steep growth of 45% Y-O-Y³⁶.

However, the overall exports have increased in the last one decade with slumps in FY17, FY19 and FY20. The exports in FY17 declined due to weak demand in global markets while the exports in FY19 and FY20 declined due to Covid -19 pandemic³⁷. The increase in exports in FY23 over FY11 is 129%.



Source: CMIE, B2K Analytics

Out of the total 131,170 tractors exported from India in FY23, USA, with a share of 28.92% stood at top exporting destination followed by Bangladesh (5.85%) and Brazil (5.45%).

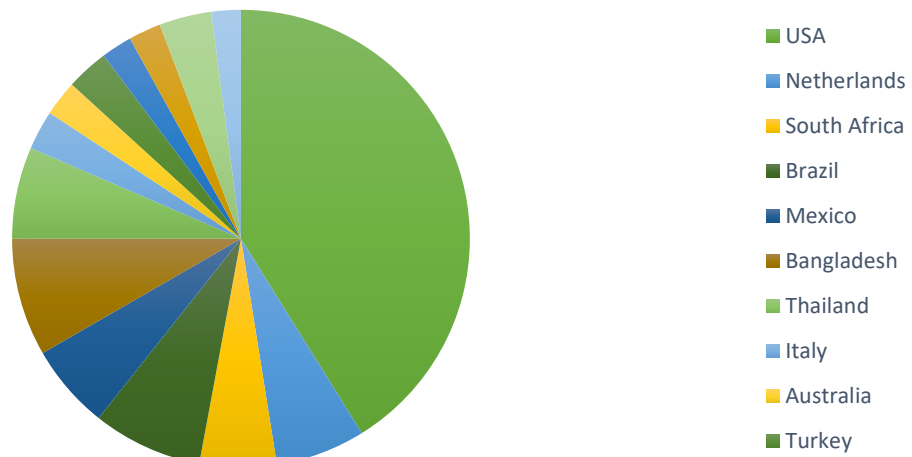
Table: Countries with Prominent Share of Tractor Export in Last 3 years FY21 to FY23			
Country	2021	2022	2023
USA	15.01 %	13.55 %	28.92 %
Bangladesh	11.37 %	37.05 %	5.85 %
Brazil	3.44 %	2.98 %	5.45 %
Thailand	3.23 %	3.41 %	4.56 %
Netherland	1.51 %	1.41 %	4.46 %
Mexico	2.29 %	6.37 %	4.22 %
South Africa	2.96 %	1.90 %	3.82 %
Turkey	13.75 %	0.61 %	2.10 %

Source: CMIE, B2K Analytics

³⁶ MAHINDRA & MAHINDRA LTD. | Integrated Annual Report 2022-23.

³⁷Tractor Manufacturers Association (tmaindia.in), india-hvs-evs-incentives-elec-tractors-India-oct22.pdf (theicct.org)

Top exporting destinations of Tractor in 2022-23
(in Numbers)



Source: CMIE, B2K Analytics

Competitive Landscapes / Major Players / Market Share:

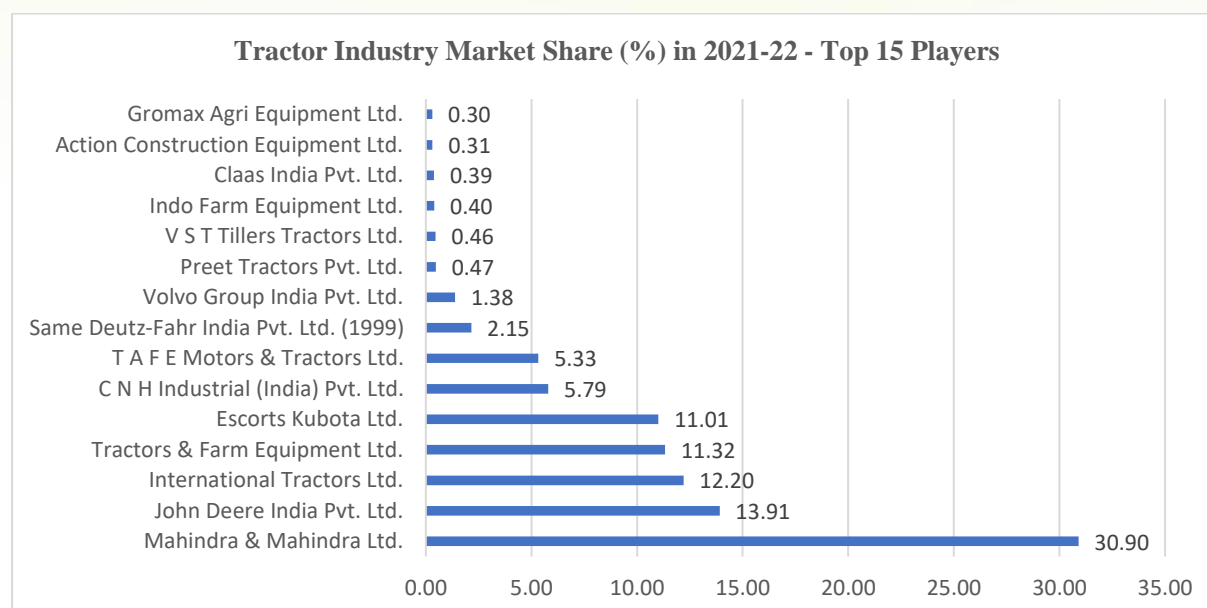
Level of Competition: The agricultural tractor market in India is consolidated and dominated by large global and domestic manufacturers. Top 5 players account for about 80% of the market share.

Major Players:



Mahindra & Mahindra, John Deere, International Tractors (Sonalika), Tractors & Farm Equipment (TAFE), Escorts etc. are some of the major players of the industry.

Below is the market share of top 15 players in the Indian tractor market:



Source: CMIE, B2K Analytics

Govt Initiatives:

One of the major drivers of the Indian tractor market has been supportive government policies.

A number of govt. initiatives are in place for the Indian farmers to purchase tractors.

- **Subsidies:** Govt. of India provides subsidies for purchasing tractors below 18 HP. This subsidy is being provided to farmers individually or in groups with irrigated land between 2.4-3.2 hectares³⁸.
- **Loans:** As per NABARD norms, any farmer with 8 acres of land can take a tractor loan to be paid over nine years with 12.5% interest over the principal amount.
- **Duty Exemption:** Exemption of excise duty for tractors less than 1800 cc of capacity is also provided.
- **Financing Terms:** The government has also reduced the minimum land holding required to avail loan facility from 10 acres to 4 acres. The credit period has also been increased from 7 to 9 years.

Recent Developments³⁹:

Sep 2023, CMERI develops e-tractor to meet small, marginal farmers' needs. To meet the requirements of farmers with small and marginal land holdings, the CSIR-CMERI (Central Mechanical Engineering Research Institute) has indigenously designed and developed a compact electric tractor named 'CSIR PRIMA ET11'. It can be charged conventionally at home in 7-8 hours.

Aug 2023, Mahindra & Mahindra (M&M) launches 7 lightweight tractors under OJA platform. This was launched in Cape Town, South Africa, in collaboration with Mitsubishi Mahindra Agriculture Machinery, Japan. These vehicles will be available in India soon.

³⁸ Source: Mordor Intelligence

³⁹ <https://www.thehindubusinessline.com/topic/Tractors/>

Aug 2023, VST Tillers Tractors launched a new range of compact tractors. VST Tillers Tractors launched its series 9 range of compact tractors in six new models. The series 9 range of compact tractors, 18 HP upwards have been designed and developed at Hosur plant of the company.

June 2023, Mahindra & Mahindra (M&M) introduces Swaraj lightweight tractors. M&M introduced its first lightweight tractor Swaraj Target 630 in Mumbai on Friday. The model will be available at Rs 5.35 lakh ex-showroom. The lightweight compact tractor has been named 'Swaraj Target'.

E- Tractors: Developments in the segment

September, 2023 - The CSIR-CMERI (Central Mechanical Engineering Research Institute) has designed and developed an indigenous compact electric tractor which is named as "CSIR PRIMA ET11". The aim behind developing these tractors is to meet the requirements of marginal and small farmers.

July 2023-Murugappa group announced entry in e-tractor segment under TI Electric under the company name Tube Investments India. It will launch 3 e-tractors by March 2024⁴⁰.

December 2020 - Sonalika launched India's first electric tractors in December 2020 named as Tiger Electric⁴¹.

Few other examples of e-tractors that have been developed are:

Mahindra eMAX 25 HST

Mahindra being one of the largest tractor manufacturers, has also stepped up towards manufacturing electric tractors. The Mahindra eMAX 25 HST is one of their mostly known electric model. It is powered by a 48V lithium-ion battery which enables a 3 to 4 hours run time from a single charge. For smooth and efficient power delivery, a high torque electric motor has been attached to the e-tractor.

TAFE e-Powertrac

TAFE has also joined others in developing their own electric tractor named "TAFE e-Powertrac". This e-tractor has a 25kWh lithium-ion battery that enables it to run for 8 hours on one charge. The tractor has a 25-horsepower electric motor that offers sufficient power for tilling and ploughing. Regenerative braking is another feature of the e-tractor that aids in battery recharging while the tractor is in use.

CELLESTIAL 27 HP electric

Compact and adaptable, the CELLESTIAL 27 HP electric tractor is made for use in agricultural and other outdoor environments. It has a 27-horsepower electric motor, which has enough power for a variety of jobs like hauling, tilling, and ploughing. A 48-volt lithium-ion battery powers the motor, providing long-lasting performance and the capacity to operate for up to 8 hours on a single charge.

The tractor has a spacious cargo area for carrying tools, materials, and other equipment, as well as an ergonomic operator's seat with simple controls. It has a roll bar and seat belts are among the numerous safety features to safeguard the driver.

⁴⁰ Murugappa Group plans aggressive play in electric vehicle space, to launch 3 e-tractors by March 2024 | The Financial Express

⁴¹ india-hvs-evs-incentives-elec-tractors-India-oct22.pdf (theicct.org)

Solis Electric Tractor

Solis is comparatively new player in the tractor market, and it has already embarked on the journey of electric tractor manufacturing with their first being- “The Solis E-tractor”.

This tractor is powered by a 45kWh lithium-ion battery that provides enough power to run for 8 hours on a single charge. The tractor has a 45hp electric motor that provides ample power for heavy-duty applications. Moreover, the Solis e-tractor contains a fast-charging system that can fully charge the battery in just 4 hours.

The large, expected growth in the Tractor segment is likely to be beneficial to Indo Farm Equipment Ltd since the company has been able to carve out a respectable position of 12th largest tractor manufacturer in the country. With the imminent need for farm mechanization and increased productivity, the Tractor market will expand organically as the overall penetration in the market is still very low in India.

Although it is quite evident that the Indian Tractor market is quite consolidated with the top 4-5 players having nearly 80% market share, the overall industry expansion will provide the relatively smaller players like Indo Farm to carve out a niche for themselves, especially in certain regions of the country.

The success in the market will depend on the ability to innovate on the products and services and bring out machinery more suited to the local conditions. Hence, entities like Indo Farm are likely to enter a capex cycle for expansion of their capacities.

Porter's Five Forces Analysis (Tractor Industry):

Entry barriers

- Entry barriers in the industry is High due to high investment and maintenance cost
- The industry is highly consolidated with top 5 players having 80% market share
- Brand building for trust and loyalty

Bargaining power of buyers

- Buyers bargaining power is High since customers have many choices
- Large growth in demand expected due to low current penetration of farm machinery

Bargaining power of suppliers

- Suppliers bargaining power is moderate in this industry
- Sourcing high quality raw materials at reasonable costs is a challenge
- Requires skilled manpower for production

Threat of substitutes

- While substitution threat is low, product obsolescence is a threat
- AI powered, GPS enabled machinery has the potential to change the traditional tractor market

Level of Competition

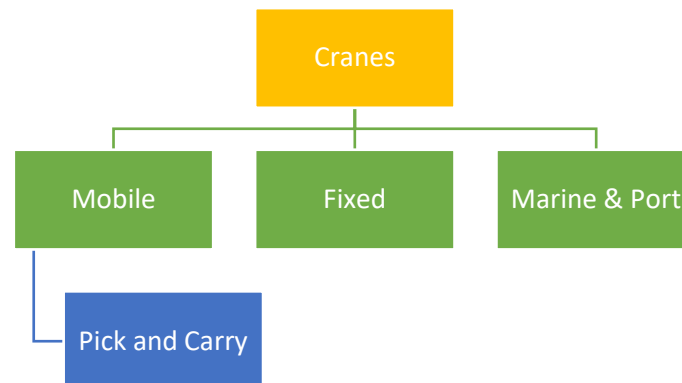
- Level of competition is very high
- Large players with deep pockets dominate the market
- Smaller players have to operate on regional territories where there are many small and unorganised players

Mobile Crane Market – Global and Domestic

Cranes are a type of construction machinery used for loading and unloading heavy materials, machines, and goods. They are equipped with cables, pulleys, hoists, and wire ropes and utilize electric motors and hydraulic systems to provide lifting capabilities. Cranes find extensive applications across the mining, construction, excavation, oil and gas and marine industries.

Mobile, fixed, marine and port are some of the commonly available types of cranes.

The overall types of cranes are as below:



Mobile Cranes

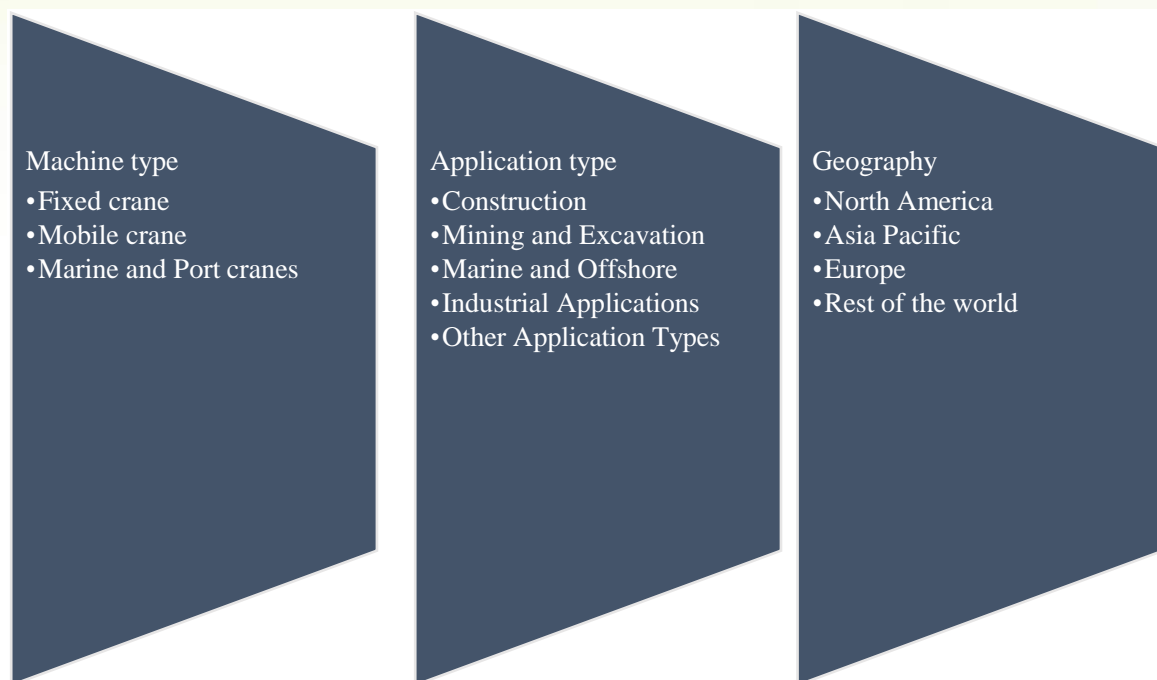
Globally the mobile crane market size is anticipated to grow from USD 19.78 billion in 2023 to USD 27.29 billion by 2028, at a CAGR of 6.65% during the forecast period⁴⁷.

The growth in mobile crane market is projected to grow due to rising infrastructural developmental projects and high-level investments by construction companies.

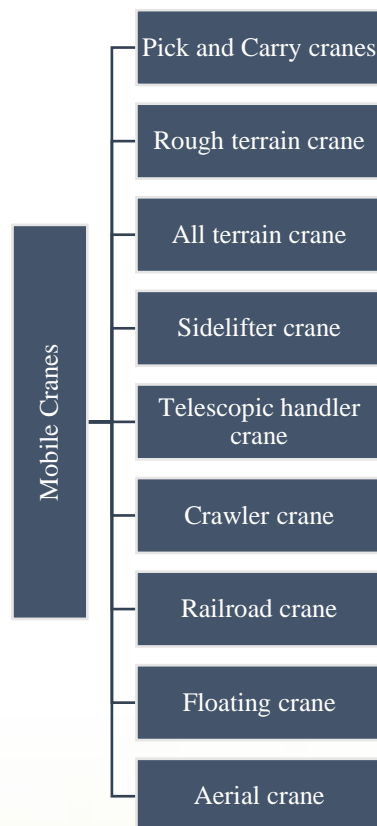
The market growth may further be augmented by inclusion and adoption of new technologies such as GPS tracking, fleet management and many more.

⁴⁷Mobile Crane Market - Size, Share & Trends (mordorintelligence.com)

Mobile cranes Segmentation



Types of Mobile cranes



Pick and Carry Crane:

Pick and Carry crane is a type of mobile crane which is used for material handling and shifting and placing load from one point to another. It has extensive applications in the construction, oil and gas and renewable energy and road infrastructure sectors.

The efficiency of a pick and carry crane lies on the amount of load it can carry. Different technologies such as CAT and ZF determine the quality of a pick and carry crane.

Pick and carry crane is the most widely used material handling equipment in India.

The pick and carry crane market is expected to witness a huge growth and drive the market in the construction equipment sector in the next few years due to 3 main reasons⁴⁸:

- New innovative technology such as the advanced telescopic loader has made these equipments much more flexible in their application. These equipments are matching new areas of application like pre-engineered building and modular construction.
- Additional safety features like bigger cabins with higher visibility, ability to work on uneven sites etc. have made such cranes a preferred choice in modern construction
- Huge push for infrastructure development globally with new roads, airports, ports, commercial and residential projects, both from the respective governments and private sector is likely to increase demand for such cranes

Key demand drivers

Large infrastructure development especially in the developing countries

Many developing countries around the world are concentrating on constructing new cities, roads, airports, ports etc. It is expected that world over (particularly in the G20 countries), there will be nearly USD 3 trillion worth of annual investments in the above areas by 2030 as per current trends⁴⁹. Such large investments will spur the construction industry to grow leading to a correlated growth for the pick and carry crane industry.

Stringent regulations on safety and emissions

The tightening regulatory grip on both safety and emissions will play a large role in the choice of machinery used (including such cranes) going forward. The ability of manufacturers to adapt to the changing regulatory environment will be a key factor for success.

Development in Asia Pacific region

The Asia Pacific region is likely to lead the demand growth for construction equipment considering the high level of construction, infrastructure and re-construction activity in that region. Growing construction activities in emerging economies like China, India and Philippines

⁴⁸ <https://www.transparencymarketresearch.com/pick-carry-crane-market.html>

⁴⁹ <https://outlook.gihub.org/>

Major global players in the mobile crane market⁵⁰:

- Bauer AG
- Kato Works Co., Ltd.
- Kobelco Construction Machinery Co., Ltd.
- Liebherr-International AG
- LiuGong Machinery Co., Ltd.
- Manitex International
- Manitowoc
- Palfinger AG
- Sany Heavy Industry Co., Ltd.
- Sarens n.v./s.a.
- Sumitomo Heavy Industries, Ltd.
- Tadano Ltd.
- Terex Corporation
- XCMG Group
- Zoomlion Heavy Industry Science & Technology Co., Ltd

The Pick and Carry Crane Industry is expected to grow at a brisk pace over the next 6 - 7 years. The crane market is expected to increase 300% between FY 2020 and FY 2030. It is projected to increase from 7000 units sold in FY 2020 to nearly 22000 units sold in FY 2030. The level of growth can be estimated at 5-6% CAGR over the next 7 years in line with the expected investment growth in the infrastructure sector^{51,52}.

Growth in Domestic crane market

The crane market is very closely correlated with the growth in infrastructure, construction and industrial sectors. In line with the above assumption, the sectoral growth will be further buoyed by the following in the Indian market:

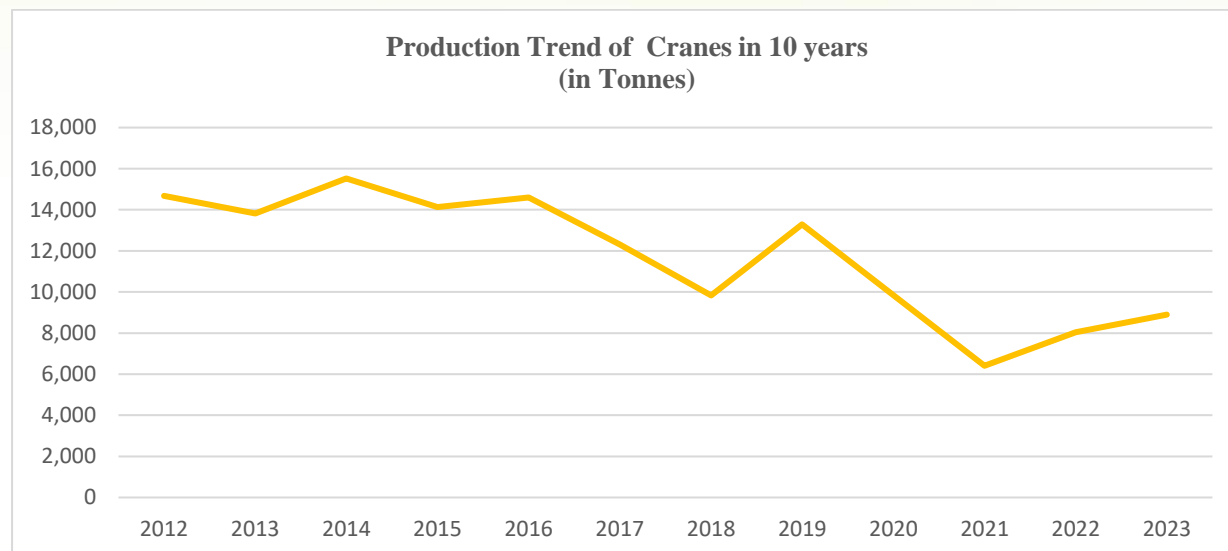
- Critical infra projects for last mile connectivity is expected to get an investment of Rs.75000 crores
- Government has allocated Rs.16000 crores towards Smart City Mission for FY 2024
- Capital outlay of Rs.2,40,000 crores has been provided to the Indian Railways and another Rs.70,000 crores for the Dedicated New Line and National High Speed Rail.
- Outlay for PM Awas Yojna has been increased by 66% to Rs.79,000 crores
- Many other projects for Airports, Ports and Industrial development

⁵⁰ Global Mobile Cranes Market Size & Share Report, 2020-2027 (grandviewresearch.com)

⁵¹ <https://outlook.gihub.org/>

⁵² ACE Corporate Presentation FY 2023

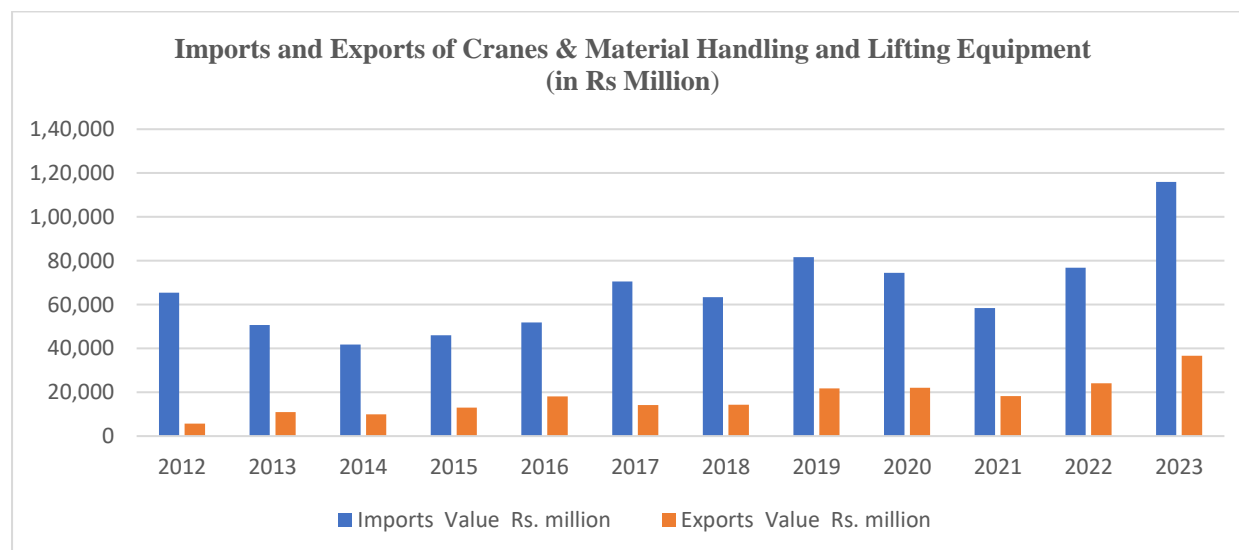
The production trend of Cranes in India:



Source: CMIE

The production of cranes was affected by the effect of Covid 19 on the construction sector which had almost come to a standstill. However, post 2021, there is a clear trend of recovery. With the overall with positive climate in the economy, the growth is expected to be sharp from here onwards.

Export-import trends in India:



Source: CMIE, B2K Analytics

The sector is still dependent on imports in certain categories of cranes as is evident from the illustration above.

Market Segmentation:

The Indian Crane Market can be segmented as per below:

By types:

- Mobile Cranes
 - Truck mounted
 - Rough-terrain
 - Crawler
 - Floating
- Fixed Cranes (Tower cranes, Ring cranes, Overhead cranes, Hammerhead cranes etc.)
- Marine and Port Cranes (Gantry crane, Deck crane, Stacking crane etc.)

By machine type Mobile Cranes has the highest market share.

By application

- Construction
- Mining and Excavation
- Marine and Offshore
- Industrial
- Other Application

By application type the Construction sector has the highest market share.

Demand Drivers:

- **Huge focus on Infrastructure development and Construction in the country**
As mentioned before, there is huge investment coming up from the Government and Private sector for infrastructure development.
 - Various government initiatives on infrastructure development like construction of buildings, bridges, road networks, ports, railways, dams etc.
 - In 2021, the Central government announced plans to invest about USD 1.4 trillion in the infrastructure sector over the next five years.
 - the Ministry of Road Transport and Highway is planning to award road projects with a total length of around 4,500 km worth USD 7.15 billion.
 - Govt. of India is also planning to start road projects worth USD 13.48 billion to construct road infrastructure in the state of Jammu and Kashmir.
 - Construction of one of the largest greenfield airport projects in the world at Navi Mumbai
- **Construction of new cities and increased real estate development in Tier 2 and Tier 3 cities**
Gujarat is developing Gujarat International Finance Tec-City (GIFT), which is India's first operational smart city and international financial service centre. It will have a construction area of 8.5 million square meters with 200 skyscrapers. The state government is also building a double corridor metro system to connect GIFT city to the nearby airport and various parts of Gandhinagar and Ahmedabad. Additionally, fund allocation on Smart City projects and RM Awas Yojana will spur growth in the Crane industry.
- **Mechanization of construction industry**
Construction in India has become increasingly mechanized. With a focus towards speedier construction and reduction of manual labour, the construction industry is shifting towards prefabricated and standard construction. The need for pick and carry cranes increase substantially in such types of construction.
- **Increased utilization in manufacturing and other sectors**
Increasing product utilization in various sectors like power, oil and gas, civil engineering, petrochemical industries etc. has led to a surge in demand for pick and carry cranes. These types of

cranes can be used in various terrains and to pick up and transport objects from one place to another making them the obvious choice for other sectors.

- **Cranes of higher tonnage and electric cranes will be favoured in the medium term**
The pick and carry cranes of higher tonnage and electric variants make them more flexible and emission compliant. Going forward, these variants are likely to see increased demand.
- **Availability of equipment finance and rental options**
The existence of equipment finance is encouraging the first-time buyers to purchase cranes. Additionally, the rental options being popular, the rental companies will look at increasing their inventory to meet the demand.

Competitive Landscapes / Major Players / Market Share:

The Indian Crane market is more or less consolidated with significant players occupying major share of the market. Some of the prominent players in the Indian crane market are Action Construction Equipment Ltd, Escorts Ltd, Liebherr-International Deutschland GmbH, Kobelco Construction Equipment etc.

Recent Developments:

- In December 2021, Action Construction Equipment Ltd received an order for 38 mobile cranes from SPIC, Defence R&D Organization (Ministry of Defence) of India.
- In November 2021, Escorts Ltd announced that Japan's Kubota had become a joint promoter. This will empower both companies to develop the value they have produced by leveraging each other's strengths.
- In March 2021, Liebherr launched the MK 73-3.1 mobile crane, which accompanies the crane series comprising the MK 140 and MK 88-4.1. The compact 3-axle crane is the response to market needs for an agile, compact, and small, mobile construction crane that is flexible and fast in operations.

Overall, the Crane Industry, led by the Pick and Carry crane segment (most popular segment in India), is poised for a sharp growth. With the industry expanding in correlation to the all-round infrastructure and construction push, the existing players have an advantage in the market. This industry is capital intensive and requires high cost of maintenance and customer support. That provides a natural barrier for newer entrants.

With such robust growth outlook for the industry, a capex cycle for the market players is expected during the near future.

Indo Farm Equipment Ltd has ventured into the Crane market in the last 5 years and ever since has been able to carve out a space for itself amongst well entrenched players in the market like ACE, Escorts Kubota, Caterpillar, Tata Hitachi etc.

Porter's Five Forces Analysis (Pick and Carry Cranes):

Entry barriers

- Entry barriers in the industry is high due to high technology and investment requirements
- It is a niche industry with limited players in the segment
- Large, well entrenched players already operating in the space

Bargaining power of buyers

- Buyers bargaining power is moderate in the industry since there are limited availability for various specifications
- Demand is likely to outgrow supply reducing the bargaining power of buyers further

Bargaining power of suppliers

- Suppliers bargaining power is High in this industry
- There is lack of availability of high quality raw materials at reasonable costs since very high grade steel and machine parts are required
- Limited availability of skilled manpower can increase the bargaining power of suppliers

Threat of substitutes

- Threat of substitution is low since mobile cranes provide more flexibility than any other type of cranes
- However, aspects of improved safety features and emission compliance can have an impact on demand

Level of competition

- Level of competition is moderate
- Limited number of players in the market
- Larger players in the global crane industry are not into the Pick and Carry segment

Peer Benchmarking

Peer Comparison

Agriculture Equipment Industry is marked by high concentration among the top 5 players. The top 5 players constitute 80% of market share.

The companies that have been considered by the Indo Farm Equipment limited for their peer comparison are Escorts Kubota Ltd and International Tractors Ltd (SONALIKA).

Peer Profile (Agriculture Equipment Market)

Escorts Kubota Ltd began its operations as an agency house in 1944. It is one of the largest conglomerated in India today. The company has three major manufacturing businesses – Agri-machinery, Construction and material handling Equipment and Railway equipment. The company provides technologically superior range of 22HP to 80 HP tractors under its two-star brands – “FARMTRAC” and “POWERTRAC”. The company also manufactures spares and lubes, engines and many other auto products.

The headquarters of the company are in Faridabad, Haryana.

International Tractors Ltd (SONALIKA) was founded in 1969 in Punjab. It is one of the largest tractors and Agri-equipment and implements manufacturing companies in the country. It is a manufacturer of 16-125HP technologically superior range of heavy-duty tractors. It manufactures products from planting to harvesting. It is an exporter of its products to more than 150 countries.

The headquarters of the company are located in Hoshiarpur, Punjab.

Peer Benchmark:

	Escorts Kubota Ltd.	International Tractors Ltd. (SONALIKA)	Indo Farm Equipment Ltd.	Industry Median
Market Share	11.01%	12.20%	0.40%	
Net Margin	11%	14%	2.70%	3%
EBITDA Margin	16%	20%	10.80%	11%
Gross Margin	36%	30%	3.40%	29%
Raw Materials cost to Sales	63%	70%	64%	70%
Power Cost to Sales	1%	0%	2%	1%
Employee Cost to sales	6%	6%	10%	8%
Current Ratio	5.03	4.78	1.43	1.53
Debt to Equity Ratio	0.01	0.02	0.66	0.34
DSCR	37.41	26.02	1.19	2.46
Net Working Capital Cycle	25	8	254	64
Long term debt/Cash accruals	11.59	9.32	9.85	0.81

Source: CMIE, Financials of Indo Farm Equipment Ltd, B2K Analytics

Farm Equipment Peer Analysis:

Operating Profitability: It is able to manage its operating costs, almost touching the industry median.

Power Cost to sales: Power cost to Sales is a little higher than the industry standards, but it could be due to utilization of power for its crane production as well.

Raw Material to sales: Indo Farms' Raw Material cost to sales is lower than its peers and in fact lower than the Industry Median.

Employee Cost to sales: Employee cost to sales is slightly higher than the industry median.

Long Term Debt to Cash Accruals: Indo Farm's Long-Term Debt to Cash Accruals is high. While it is higher than most of the larger players, Indo Farm is a new entrant in the market and is in the growth phase wherein Machinery upgradation is a requirement. Therefore, more capital investments and longer-term loans are required to set up machinery and to increase the capacity, thus leading to higher debt portion in comparison to the cash accruals. It also has a crane manufacturing division which has a longer working capital cycle leading to higher working capital borrowings.

Debt Equity Ratio: Debt Equity of Indo Farm, though slightly higher than its peers, remains comparable.

Net Working Capital: Indo Farm's Net Working Capital is quite high primarily because of Inventory. Indo Farm, unlike these companies, is also into production of Cranes along with Tractors. The company manufactures majority of its components in-house, leading to a high inventory holding period. The sale of tractors is linked to harvest time for the next sowing season for which the company has to keep adequate inventory to meet the demand.

Crane Industry:

Peer Profile:

Action Construction Equipment Ltd. Is a leading Material Handling and Construction Equipment manufacturing company. The company is a market leader in Mobile Cranes and Tower Cranes segment. The company also offers Mobile/Fixed Tower Cranes, Electric Cranes, Crawler Cranes, Truck Mounted Cranes, Lorry Loaders Backhoe Loaders, Motor Grader, Vibratory Loaders, Piling Rigs, Forklifts, Concrete Placing Boom, Warehousing Equipment, Tractors, Harvesters and other Agriculture Machinery.

Escorts Construction Equipment Ltd started operating in 1971. It is today one of the pioneering names in the construction and tractor industry. The company has a history of collaborating with international players to bring in new technology in the products it manufactures in India. The company specializes in providing top-of-the-line machinery. It manufactures a wide range of products from Backhoe loaders to cranes and compactors. It is considered to be the most trusted brand in pick and carry cranes.

Peer Benchmark

	Action Construction Equipment Ltd.	Escorts Construction Equipment Ltd	Indo Farm Equipment Limited	Industry Median
Net Margin	6%	11%	2.70%	3%
EBITDA Margin	11%	16%	10.80%	9%
Gross Margin	27%	36%	3.40%	39%
Raw Materials cost to sales	73%	63%	64%	60%
Power cost to sales	0%	1%	2%	1%
Employee cost to sales	5%	6%	10%	12%
Current Ratio	1.34	5.03	1.43	1.41
Debt to Equity Ratio	0.04	0.01	0.66	0.37
DSCR	3.39	37.41	1.19	0.75
Net working capital cycle	30.71	25.01	254	109.87
Long term debt/Cash Accruals	0.01	11.59	9.85	0.31

Source: CMIE, Financial statements of Indo Farm Equipment Ltd, B2K Analytics

Operating Profitability: It is able to manage its operating costs, almost touching the industry median.

Raw Material Cost to Sales: Raw Materials Cost to Sales is better than some of its peers.

Power Cost to sales: Power cost to sales is slightly higher than the some of its peers due to its utilization in the tractor section as well.

Employee Cost to Sales: It is slightly higher than its peers but comparable as per industry median.

Current Ratio: Current ratio is satisfactory. This shows that Indo Farm has fair amount of liquidity. This is also because the inventory holding period is slightly higher.

Debt Equity Ratio: Debt Equity ratio is comparable. Indo Farms is a relatively new entrant in the market and therefore, to expand the utilization and for machinery upgradation, it requires more long-term loans.

DSCR: DSCR of 1.19 is comparable. The portion of long-term loans will be higher as the company needs to expand its capacity utilization, upgrade its machinery, etc along with maintaining its operating costs.

Net Working Capital Cycle: Indo Farm's Net Working Capital is quite high primarily because of high Inventory holding period. Indo Farm, unlike these companies, is also into production of Cranes along with Tractors. The company manufactures majority of its components in-house i.e. casting components, machining, hydraulic components, gears, sheet, heavy metal fabrication, etc. leading to a high inventory holding period. The sale of tractors is linked to harvest time for the next sowing season for which the company has to keep adequate inventory to meet the demand.

Long Term Debt to Cash Accruals: Indo Farm's Long-Term Debt to Cash Accruals is high. While it is higher than most of the larger players, Indo Farm is a new entrant in the market and is in the growth phase wherein Machinery upgradation is a requirement. Therefore, more capital investments and longer-term loans are required

to set up machinery and to increase the capacity, thus leading to higher debt portion in comparison to the cash accruals.

Indo Farm is a relatively newer player but has already become one of the largest players. It is the 12th largest player in the Agriculture Equipment market and also 3rd largest in the Pick and carry crane industry according to the peers identified (having similar product profile).

From a financial point of view as well, they are mostly comparable other than the fact that their Working Capital Cycle needs to be managed well.

Considering the industry, sectoral view both in terms of Agriculture & Construction Equipment, the outlook is very positive. Indo Farm is expected to grow substantially because Industry as a whole is expected to expand.

Conclusion

The main sectors where Indo Farm Equipment Ltd operates are:

- Agri Equipment (Led by Tractor)
- Mobile Cranes (Led by Pick and Carry Cranes)

Agri Equipment Segment:

- The industry is poised for a superlative growth of above 7% CAGR in the next 7 years globally. This is driven by the higher projected food requirements brought about by the projected population of the world.
- A major part of the growth will be driven by tractor sales which contribute about 30% of the revenue to this segment.
- Asia Pacific region is forecasted to be the demand driver area with a lot of focus on countries like India, China, Taiwan and South Korea.
- The Indian market is highly concentrated with the top 5 players cornering 80% of the market share.
- However, there are number of relatively smaller players, especially in the Tractor market in India which have a small market share, primarily due to regional presence.
- The industry shows a healthy average EBIDTA margin of 11% and comfortable gearing of 0.34x and sufficient liquidity showcased by Current Ratio of 1.53x.
- The industry is moderately working capital intensive with an average Working Capital Cycle above 60 days.
- Most of the components are manufactured in-house or indigenously which shows in the comfortable operating profitability of the players.
- The industry is highly competitive, and the success will depend on the applicability of innovative product enhancements that take care of the end users' needs.
- The industry is likely to go through a capex cycle considering the level of project growth in the near future.

Mobile Crane Segment:

- Mobile cranes are expected to have a large, derived demand due to the global thrust on Infrastructure development, Construction of both residential and commercial properties and manufacturing industries.
- Pick and Carry cranes are the most popular of the mobile cranes because of the flexibility of use that they provide. Hence the demand for mobile cranes is expected to be driven by Pick and Carry cranes.
- Indian crane market is expected to grow at 6.79% CAGR for the next 5 years owing to large infrastructure and construction spending by the Government and private sector in the pipeline.
- The Indian crane market (pick and carry) is quite fragmented with the top 5 players having less than 30% market share.
- Success in the market will depend on the ability of the players to provide safer machinery and electric variant could become the new generation buzzword.
- The industry shows a satisfactory median EBIDTA margin of nearly 9% and comfortable gearing of 0.37x and sufficient liquidity showcased by a Current Ratio of 1.41x.
- The industry is highly working capital intensive with median Working Capital Cycle above 100 days.
- The availability of high-grade steel and other sophisticated parts which might require to be imported are the main factors to be considered.
- Looking at the growth potential of the industry, market participants are likely to enhance their capacity so that they can take advantage of the expected high demand.

Indo Farm Equipment Ltd is in a fairly strong position in both the segments it operates in. With the possibility of the market expanding substantially in both the segments in the near future, Indo Farm will should be able to grow along with the sector. This is because, it is expected that the market will have enough space for the existing players in the industry without any major shakeout.

About B2K

B2K Analytics is a boutique consulting firm that helps clients profit from analytical insights. B2K provides services and solutions in the areas of Risk Management, Research, Analytics, Investment Management, Education, and Infrastructure.

The B2K team has experienced domain experts and industry practitioners who have provided such services and implemented solutions across institutions in different countries. As such, team members are experts in regulatory and management practices in these areas and have helped many clients in adopting best practices.

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Telephone: + 91 97427 70001. Email: info@b2kanalytics.com

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