

Farm Mechanization in India: Tractors, Harvesters & Custom Hiring Trends

April 1, 2025 • vajiramandravi.com



What's in Today's Article?

- Farm Mechanization in India Latest News
- Beyond Tractors: The Expanding Role of Farm Mechanization
- Fast Growing Market for Farm Machinery
- From Tractors to Machines: The Shift in Farm Mechanization
- A Different Model: Custom Hiring in Farm Mechanization
- Farm Mechanization in India FAQs

Farm Mechanization in India Latest News

- Farm mechanization in India is closely associated with tractors, which replaced bullocks for tasks like ploughing, cultivating, and transportation.

- Tractors offer significantly more power, with models in India delivering 41-50 horsepower, compared to the 1 horsepower of bullocks.
- The Indian tractor market sells around 9 lakh units annually, with each tractor priced at approximately Rs 7 lakh for a 45 hp model, resulting in a market size of Rs 60,000 crore.

Beyond Tractors: The Expanding Role of Farm Mechanization

- Farm mechanization isn't limited to tractors. While tractors provide the motive power, the effectiveness of farm operations depends on the attachments used, such as rotavators.

Advantages of Tractor-Powered Equipment

- Bullock-drawn ploughs are limited to primary tillage, working at depths of 4-6 inches.
- In contrast, a tractor-powered rotavator can perform both primary and secondary tillage in a single pass, reaching depths of 8-12 inches.
- This improves soil aeration, water infiltration, and root penetration.

Growing Market for Farm Machinery

- The market for farm machinery like rotavators is expanding, though not at the same volume as tractors.
- Rotavators alone represent a market of 200,000 units, worth Rs 2,000 crore annually.

Key Players in the Market

- Leading brands in the farm machinery sector include Tirth Agro Technology, Shaktiman, Mahindra & Mahindra, and International Tractors/Sonalika.

Fast Growing Market for Farm Machinery

- India's farm machinery market, excluding tractors, is valued at over Rs 10,000 crore, with 60% controlled by organised players and 40% by the unorganised sector.
- Globally, farm machinery (\$100 billion) surpasses tractor sales (\$60 billion), but in India, tractors (Rs 60,000 crore) dominate over farm machinery, indicating significant growth potential.

Diverse Farm Machinery Segments

- Farm machinery includes tractor-mounted implements (tillage tools, sprayers, balers, loaders, trolleys, laser land levellers) and self-propelled machines like harvesters, rice transplanters, and cane harvesters.

Mechanization to Address Labour Shortages

- Rotavators and subsoilers enhance soil fertility by deep tilling, while harvesters and transplanters help combat labour shortages in agriculture.

Market for Harvester Combines

- **Wheel-Type Harvester Combines:** Annual sales of 8,000 units, worth Rs 2,000 crore (Rs 25 lakh per machine).
- **Crawler Track Combines:** Used for paddy harvesting in wetlands, with a market of 7,000 units (Rs 1,750 crore).
- **Tractor-Mounted Combine Harvesters:** Annual sales of 3,000-3,500 units (Rs 300-350 crore, priced at Rs 10 lakh each).

Future Growth Potential

- With farm mechanization still lagging behind global standards, the Indian market has significant room for expansion, particularly in modernizing harvesting and tillage equipment.

From Tractors to Machines: The Shift in Farm Mechanization

- Farm operations that once relied on manual labour are increasingly being replaced by machines, improving efficiency and reducing costs.

Mechanized Harvesting: Faster and More Cost-Effective

- Harvesting an acre of wheat manually takes 5-7 labourers a full day, plus additional time and labour for threshing, costing Rs 5,000 or more.
- A combine harvester can complete the same job in 25-30 minutes at a cost of Rs 2,000-3,000 per acre, making mechanical harvesting increasingly popular.

Paddy Transplanting: A Growing Market for Machines

- Machines are replacing manual paddy seedling transplanting, especially in southern India.
- The rice transplanter market is around 3,000 units annually, with walk-behind models (2,750 units at Rs 3 lakh each) and ride-on models (250 units at Rs 10 lakh each).

Big Players Expanding in Farm Machinery

- With rising mechanization demand, major tractor manufacturers are entering the farm equipment market.
- Mahindra & Mahindra (M&M) has a dedicated farm equipment plant in Pithampur, Madhya Pradesh, spanning 23.7 acres, with a Rs 100-crore investment.
 - **Capacity:** 1,200 harvesters and 3,300 rice transplanters per year.
 - **Facilities:** Chassis fabrication, in-house painting, and assembly.
- M&M also operates a rotavator factory in Nabha, Punjab, further strengthening its presence in farm mechanization.

A Different Model: Custom Hiring in Farm Mechanization

- While tractors are versatile and used for multiple farm operations, specialized machines like sugarcane harvesters, combines, and Super Seeders have crop-specific applications, making them expensive for

individual farmers to own.

Custom Hiring: A Solution to High Costs

- Many farmers demand advanced machinery, but affordability remains a challenge.
- Custom hiring, where individual owners offer machine services to multiple farmers, is emerging as a viable alternative.

A Sustainable Future for Farm Mechanization

- The **owner-operator model**, where individuals invest in machinery and provide services to multiple farmers, is proving to be a sustainable and profitable approach to increasing mechanization in Indian agriculture.

Farm Mechanization in India FAQs

Q1. What is farm mechanization in India?

Ans. Farm mechanization in India involves using tractors, harvesters, and machines to improve efficiency, reduce costs, and address labor shortages.

Q2. Why are combine harvesters replacing manual harvesting?

Ans. Combine harvesters reduce labor needs, complete harvesting in 30 minutes per acre, and cost Rs 2,000-3,000 compared to Rs 5,000 manually.

Q3. How is custom hiring improving farm mechanization?

Ans. Custom hiring allows farmers to rent expensive machines like harvesters, making advanced mechanization affordable and profitable for small-scale farmers.

Q4. Which companies are leading in farm mechanization?

Ans. Major players include Mahindra & Mahindra, Sonalika, Shaktiman, and Kubota, expanding into farm machinery like rotavators, rice transplanter, and combines.

Q5. What is the future of farm mechanization in India?

Ans. India's farm machinery sector has immense growth potential, focusing on advanced equipment to modernize tillage, harvesting, and labor-saving technologies.

Source: IE | IE

Source: <https://vajiramandravi.com/current-affairs/farm-mechanization-in-india/>

© Vajiram & Ravi. For personal use only.