



POPULAR ARTICLE

Custom hiring centres: bringing modern farm machinery within reach of small and marginal farmers

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Intricacies of the subject

Farm mechanization improves the efficiency, timeliness and productivity of Indian agriculture. However, despite the shift towards mechanical and electrical power, access to machinery remains limited among small and marginal farmers due to high costs and inadequate credit and support services. Custom Hiring Centres (CHCs) have emerged as an important mechanism for providing access to modern farm machinery without requiring individual ownership. CHCs provide machinery and equipment on a hiring basis and support mechanization across farm operations. CHCs reduce cultivation costs by 15.71 per cent, increase net returns by 24 per cent and increase yields by 4.90 per cent, while providing mechanical energy at Rs.2.48 per MJ. These findings demonstrate the potential of CHCs to make mechanization more affordable, economically viable and accessible, particularly for small and marginal farmers. However, their effective functioning depends on accessibility, appropriate machinery selection, transportation, utilization, maintenance and availability of trained

operators. Strengthening farmer-oriented CHCs through active participation of farmers, FPOs and farmer groups can promote demand-driven machinery services that are timely, affordable and responsive to local farming needs, thereby contributing to a more inclusive and efficient agricultural mechanization system.

Introduction

Indian agriculture is witnessing a gradual shift from dependence on human and animal power towards mechanical and electrical power. In 1961–62, animal power dominated, accounting for 91.20 per cent of total farm power, while mechanical and electrical power contributed only 6.40 per cent and 2.40 per cent, respectively. By 2024–25, the pattern had changed substantially, with mechanical and electrical power increasing to 76.00 per cent and 20.00 per cent, respectively, while animal power declined sharply to 4.45 per cent, clearly demonstrating the scale and speed of mechanization in Indian agriculture (Singh *et al*, 2025). This transition has been driven by the rising cost of maintaining draught animals,



increasing scarcity of agricultural labour, cost of agricultural labour and the need to complete farm operations within the optimum time. Farm mechanization helps address these constraints by enabling timely operations, reducing drudgery and improving the efficiency of farm inputs and resources. It extends across the entire crop production cycle, beginning with land preparation, sowing and planting, nutrient application, irrigation and plant protection, and continuing through harvesting and post-harvest operations such as threshing, cleaning, grading and drying. The use of appropriate machinery can reduce labour requirements, improve operational efficiency, minimize post-harvest losses and enhance the quality of agricultural produce. However, the increasing availability of farm machinery does not automatically ensure access for every farmer. For a large number of small and marginal farmers, the major challenge is not the availability of machinery in the country but its affordability, accessibility and timely availability (Dilip *et al.*, 2025). Despite the substantial progress in farm mechanization, its benefits are not equally accessible to all farmers. This challenge is particularly significant in India, where over 86 per cent of farmers operate less than 2 hectares of land, and fragmented holdings make individual ownership of costly agricultural machinery economically challenging. Consequently, the level of agricultural mechanization remains uneven across the country, with considerable differences in farmers' access to machinery and mechanization services. Thus, the growing availability of farm machinery at the national level does not necessarily ensure that farmers can access the right equipment at the right time. This situation highlights the need to move from a machinery ownership-based approach towards an access-based approach, where farmers can obtain appropriate machinery when required without bearing the

high cost of ownership and maintenance. Custom Hiring Centres (CHCs) provide such a mechanism by enabling farmers to hire agricultural machinery according to their specific needs, thereby making mechanization more affordable, accessible and timely (Bethi and Deshmukh 2023).

Custom hiring centres

A Custom Hiring Centres (CHCs) is a local facility that provides farm machinery and equipment on a rental basis. These centres are typically managed by Farmer-Producer Organizations (FPOs), individual entrepreneurs, or farmer groups. By offering access to costly machinery, CHCs reduce drudgery, ensure timely farm operations, and enhance the earnings of small and marginal farmers who cannot afford to purchase such equipment outright.

Objectives

- To make various types of farm machinery and equipment available to small and marginal farmers
- To offset the adverse economies of scale due to high cost of individual ownership.
- To improve mechanization in places with low farm power availability.
- To provide hiring services for agricultural machinery and implements required for different farm operations
- To expand mechanized activities during cropping seasons in large areas especially in small and marginal holdings.
- To provide hiring services for various high-value, crop-specific machinery applied for different operations

Ideally, the CHC shall have to be located in a place where by and large small land holdings are located within a radius of 5 to 7 km. This will reduce the transport cost and time of transport of agricultural machinery. In other



terms, one CHC is expected to cater to four or five villages and therefore a common place agricultural machinery. In other terms, one CHC is expected to cater to four or five villages and therefore a common place equidistant from the villages catered is advisable.

Evolution of custom hiring centres

The evolution of Custom Hiring Centres (CHCs) in India reflects a gradual transition from individual ownership to shared and institutionalized services. The origins of custom hiring can be traced to 1912, when a steam thresher was introduced in Punjab for wheat threshing, representing an early form of shared use that laid the foundation for organized hiring services. The concept gained further momentum during the 1960s with the establishment of Agro-Industries Corporations, which promoted collective approaches to agricultural mechanization, followed by an important institutional development in 1971, when agro-service centres were established in states such as Punjab, Haryana and Rajasthan, providing machinery services along with machinery sales, repair facilities and agricultural inputs. From the 1990s onwards, government support for custom hiring expanded, gradually transforming localized machinery-sharing arrangements into a more structured approach to agricultural mechanization. This transition gained further momentum with the introduction of the Sub-Mission on Agricultural Mechanization (SMAM), which was implemented from 2014–15 and placed particular emphasis on small and marginal farmers and promoted Custom Hiring Centres, Farm Machinery Banks and High-Tech Hubs to address the limitations of individual machinery ownership. Under SMAM, from 2014–15 to 2025–26, central assistance of Rs.9,404.47 crore supported the distribution of 21.61 lakh farm machines to individual farmers, along with the

establishment of 27,554 Custom Hiring Centres, 646 High-Tech Hubs and 25,608 Farm Machinery Banks. The number of beneficiaries receiving support for individual farm machinery ownership increased from 2.07 lakh in 2020–21 to 2.32 lakh in 2024–25, indicating an expansion in the reach of mechanization support. The scheme follows a cost-sharing arrangement between the Central and State Governments, with a 60:40 funding pattern for most states, 90:10 for North-Eastern and Himalayan states, and 100 per cent Central funding for Union Territories. Thus, CHCs have evolved from early machinery-sharing practices to organized and government-supported hiring services, strengthening mechanization access for small and marginal farmers (GoI 2026a).

Current scenario of custom hiring centres

As of 2026, India has 76,475 registered Custom Hiring Centres (CHCs). In terms of the number of CHCs, Punjab has the highest number with 11,148 centres, followed by Andhra Pradesh (8,472) and Haryana (8,260), indicating substantial development of custom-hiring infrastructure in these states (GoI 2026b). Across the country, 5.24 crore farmers are registered with CHCs, reflecting the extensive reach of these machinery-hiring services. However, the states with the largest number of registered farmers are not necessarily those with the largest number of CHCs. Uttar Pradesh has the highest number of registered farmers (1.06 crores), followed by Bihar (67.50 lakhs) and Rajasthan (57.21 lakhs) (GoI 2026b). This difference between the distribution of CHCs and registered farmers indicates considerable variation in the scale and outreach of custom-hiring services across states. The figures therefore highlight both the growing reach of CHCs and the continuing need to assess their accessibility, utilization and farmer participation across different regions. Improving productivity



and reducing labour requirements. Custom Hiring Centres can do more than simply provide access to farm machinery. By helping farmers complete important agricultural operations at the right time, CHC services can contribute to higher crop yields while reducing labour requirements. According to Rameshwar

et al., (2024), CHC services contributed to higher crop yields and improved labour efficiency across several crops, as presented in Tables 1 and 2, respectively. The study reported notable increases in crop productivity, along with substantial reductions in labour requirements for various farm operations.

Table 1. Yield improvement

Crop	Increase in Yield (%)
Chickpea	23.11
Wheat	21.16
Rice – Rabi	16.49
Rice – Kharif	14.70
Groundnut	15.62
Maize	06.97

Table 2. Reduction in labour requirement

Crop	Reduction in labour Requirement (%)
Rice – Rabi	42.85
Rice – Kharif	42.55
Wheat	37.50
Groundnut	33.33
Chickpea	28.57
Maize	26.00

These improvements are particularly relevant in situations where farmers face labour shortages or need to complete operations within a narrow time window. Thus, CHCs can improve the efficiency of farm operations by providing machinery when it is needed. However, for farmers to fully benefit from these services, they must also be able to easily identify, locate and access available machinery and CHCs in their vicinity.

Digitalizing access to farm machinery

Recognizing the importance of improving access to mechanization services, the Government of India introduced the FARMS (Farm Machinery Solutions) mobile application in September 2019. Developed by the National Informatics Centre (NIC), the application connects farmers with nearby

Custom Hiring Centres (CHCs), enabling them to locate and access farm machinery. It also provides a platform for buying and selling second-hand farm equipment, with feedback mechanisms that promote transparency and efficiency. By linking farmers with machinery service providers and government mechanization initiatives, the FARMS app helps bridge the gap between the availability of machinery and its accessibility to farmers.

Opportunities and challenges of custom hiring centres

According to Bethi and Deshmukh, 2023, CHCs offer several opportunities and face several challenges in supporting efficient agricultural operations, particularly for small marginal farmers. The major opportunities include:



- **Diversification of Services:** CHCs can offer machinery for a wider range of operations, from land preparation to harvesting and post-harvest activities.
- **Strategic Partnerships:** Collaboration with FPOs, cooperatives and farmer groups can expand the reach and utilization of CHC services.
- **Expansion of Coverage:** Serving more villages and crops can increase machinery utilization and improve the viability of CHCs.
- **Digital Technology:** Digital booking and management systems can improve machinery scheduling, accessibility and service delivery.
- **Government Support:** Financial assistance and mechanization programmes can facilitate machinery acquisition and CHC establishment.
- **Preventive Maintenance:** Regular servicing and maintenance scheduling can reduce breakdowns and extend machinery life.
- **Rural Entrepreneurship:** CHCs can create income and employment opportunities through machinery-based agricultural services.
- **High-Tech Mechanization:** CHCs can provide farmers access to advanced technologies such as precision machinery and drone-based services

Despite these opportunities, several challenges that can limit the effectiveness and wider adoption of CHCs:

- **High Initial Investment:** Establishing a CHC requires substantial investment in machinery, equipment and supporting infrastructure.
- **Fluctuating and Seasonal Demand:** Seasonal agricultural operations can cause considerable variation in machinery demand, resulting in periods of very high demand during peak agricultural operations

deand underutilization during the off-season.

- **Machinery Maintenance:** Frequent servicing, repairs and replacement of spare parts can increase operating costs.
- **Competition:** Competition among CHCs and private machinery service providers may affect service demand and profitability.
- **Limited Access to Finance:** Difficulty in obtaining affordable credit can constrain machinery acquisition and expansion.
- **Skilled Personnel:** The availability of trained machinery operators and technicians is essential for efficient CHC operations.
- **Transportation Costs:** Moving machinery between the CHC and farmers' fields can increase service costs and reduce efficiency

Conclusion

Custom Hiring Centres (CHCs) provide a practical mechanism for widening access to farm mechanization without requiring individual ownership of costly machinery. By making agricultural machinery available on a hiring basis, CHCs can connect small and marginal farmers with appropriate technologies according to their operational needs. However, their effectiveness depends not only on establishing more centres but also on ensuring appropriate machinery selection, adequate utilization, timely maintenance, trained operators, affordable hiring charges and convenient geographical access. Going forward, strengthening CHCs as reliable farm machinery service platforms can contribute to a more accessible and inclusive mechanization system. The focus should therefore shift from simply increasing the number of machines and centres to ensuring that the right machinery is available to the right farmer at the right time and at an affordable cost. Such an approach can help extend the benefits of agricultural



mechanization beyond large farms.

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