

## **Custom hiring services availed, constraints, and suggestions perceived by the farmers in Jabalpur district of Madhya Pradesh**

### **Abstract**

Custom hiring services (CHS) has enabled the small and the marginal farmers to timely carry out the farm operations by providing access to the costly farm machines at subsidized rate on hiring basis. It has been advantageous in drudgery reduction, minimizing the cost of cultivation and also creating opportunities for skilled labour. Custom hiring has facilitated efficient use of resources and applied inputs. In spite of its importance and need, farm mechanization is still beyond the reach and acceptance of many farmers in India due to various constraints perceived by them. The present study was carried out in the Patan block of Jabalpur, Madhya Pradesh with a sample size of 80 respondents availing services from the custom hiring centres (CHC). Proportionate random sampling technique and Ex-post facto research design was used for the purpose of the study. Statements related to different constraints faced and suggestions to overcome them expressed by the respondents were recorded and ranked accordingly. 'Lack of knowledge about custom hiring centres' and 'non-availability of machineries during peak season' were the maximum constraints faced whereas 'dissemination of technical know-how' and 'establishment of more number of CHC under one panchayat' were the most important suggestions given to overcome the problems perceived regarding the CHS.

### **Keywords**

Mechanization, Agriculture, Custom hiring services, Constraints, Suggestions

### **Introduction**

India is considered as the agriculture based nation. About 85% of the farmers of India are small and marginal (Kumar et al., 2020; Pradhan et al., 2021). Urbanization and mechanization has created a deep impact on agriculture operations (Kumar and Nain, 2013; Umunnakwe, 2014; Pradhan et al., 2021). Madhya Pradesh is a second largest state located in central India with 3, 08, 245 square kilometer area and has a population of around 72 million out of which 74.73% population belongs to the rural area (Kumar and Nain. 2013; Pradhan et al., 2021). Madhya Pradesh has about 65% farming community as small and marginal farmers (NSS, 2005; Pradhan et al., 2021). Input cost is getting higher in which major chunk

is consumed by labour which adversely affects the income of farmers. In addition to that, the availability of skilled labors at low wages has become scarce. However, mechanization in agricultural practices has improved the efficiency and easiness of this occupation. But, this demands huge initial instalment costs. Nevertheless, custom hiring services (CHS) have offered an alternative way to tackle this situation in much easier way.

Custom hiring services (CHS) is a well-known method of acquiring short-term control of farm machineries among the farmers not owning them. Ghosh (2010) in his study on the determinants of farm mechanisation in modern agriculture in Burdwan districts of West Bengal revealed that age old customs, less support by government extension agencies services for providing knowledge and information about modern agriculture, minimum access to institutional credit stands as main constraints for getting optimum benefits from farm mechanization, especially for the small and marginal farmers group. Singh et al. (2011) recorded several problems in mechanization of rice farming. Among all problems small size land holding was one of the major problems for mechanized farming in Indian situation. The fragmentation of land holdings acts as a hindrance for the free movement of the machinery. This resulted in loss of time in turning. It was feared in certain quarters that there will be labour displacement due to mechanization. Poor investment capacity of small and marginal farmers to purchase the machinery and lack of after sales and services remaining the spread of mechanization. Whereas, Singh et al. (2013) listed the constraints realized by the farmers regarding custom hiring of agricultural machineries were higher cost of custom hiring services, lack of timely availability of tractor services, inadequate availability of tractor services were recorded as the major constraints. In an another research study by Parashunath et al. (2016) reported the constraints associated with the utilization of private custom hiring services by farmers was lack of timely availability of tractor services. Tedious procedure in getting tractor service and lack of awareness about availability of machineries on custom hiring services were the problem of public custom hiring service centres. Nissa et al. (2017) reviewed custom hiring centre: An emerging trend-benefits, constraints and way forward with reference to NICRA village and revealed in their findings that custom hiring in India faces constraints like higher initial cost of equipment, lack of knowledge on the aspects of operation, maintenance and repair of equipment, repair and maintenance under individual ownership coupled with lack of space for shelter, orientation towards the use of tractors and allied equipments, suboptimal asset capacity utilization on account of crop specific requirements. Shambhu and Ram (2007) studied on status of farm mechanization in Nalanda

district of Bihar. In this study they reported the various problems being faced by farmers in the way of adoption of most of farm implements were small holdings, agricultural engineering extension programmes, non-availability of implements, scattered field, non-availability of electricity, lack of farm road, poor economic condition, lack of genuine spare parts and service credit availability.

Scanty research has been done to establish the usage, constraints and perceived suggestion by the farmers of Madhya Pradesh with regard to custom hiring services. There was an urgent need to conduct this extension study to understand the usage behaviour of machineries by the farmers along with the constraints faced by them. In addition to this aimed at receiving the suggestions from the farmers' side for the improvement in usage of CHS in their agricultural operations.

## **Methodology**

The present study was conducted in Jabalpur district of Madhya Pradesh. Patan block was selected purposively due to the maximum number of custom hiring centres available. Out of twenty villages having custom hiring centres, only ten villages were selected randomly for the study. From each village 8 per cent of the households were taken from the total number of households on the basis of proportionate random sampling method and further from each household one respondent was selected who was actively engaged in the agricultural activities/operations. Thus, selected sample was comprised of 80 farmers who were availing the services of the custom hiring centres. Ex-post facto research design was used for the purpose of the study. Primary data were collected with the help of well-structured and pre-tested interview schedule consisting of both open ended and close-ended questions. Statements related to various constraints faced by the farmers while utilizing the services of custom hiring centres were recorded. Frequency and percentage were processed for each statement and ranked accordingly to know the maximum and the minimum perceived constraints in order to reveal which was the most important problem which needs to be addressed first for improving the services rendered by the custom hiring centres. Similarly the suggestions to overcome the felt constraints were recorded and ranked to provide relevant intervention points for the government and non-government agencies, policy makers etc.

## **Results and discussion**

Table 1 indicates the various services rendered by custom hiring centres. The study revealed that majority of the respondents were observed to avail service of Tractor (97.50%) followed by the use of Thresher (93.75%), Rotavator (86.25%), Straw reaper (80.00%), Raise bed planter (73.75%), Reversible plough (72.50%), Cultivator (67.50 %) and Seed cum fertilizer drill machine (62.50%). Some CHC also provided suggestions and advisory services regarding the use of implements for various farm operations. The finding is supported with the work of Anonymous (2012) in his study on evaluation of the custom hiring service offered for agriculture under Yantra doot scheme in the state of Madhya Pradesh revealed that the major custom hiring services offered for agriculture were Rotovator, cultivator, seed drill, raised bed planter, reaper, pesticide sprayer, and thresher. It was reported that farmers have positively responded towards the scheme as they need more number of machineries like Rotovator, reaper because whenever any other farmer have taken it for his farm it will not be available for others. Another study by Kamboj et al. (2012) about the information regarding nature of custom hiring services provided by co-operatives, the costs analysis with respect to the annual usage. It was observed that rotavator, laser land leveller, disc harrow and cotton drill were found to be the most common machines among all the centres, implying that these machines were in most demand by the farmers. The tractors had an average annual usage of 900 hours, and that for the tillage machinery such as rotavator, cultivator, disc harrow and laser leveller was close to 550 hours. Machinery such as the hydraulic trolley and water tank were also in great demand amounting to nearly 750 and 800 hours of annual use. Srinivasrao et al. (2013) in their study on operationalization of Custom Hiring Centres on Farm Implements in hundred villages in India funded by National Initiative on Climate Resilient Agriculture situated all over India found that zero seed drill, multi crop thresher, tractor operated power sprayer, Rotovator, power weeder, ridger, chaff cutter, maize crop thresher, multi crop planter, seed cum fertilizer drill, leveller, reaper, power tiller, power weeder, combine harvester, cono weeder, rotary power weeder, MB plough, Disk plough, rice transplanter, paddy thresher, post hole digger were major farm machineries offered on custom hiring basis. Whereas, a study on the role of co-operatives in institutionalization of custom hiring in Punjab was conducted by Chahal et al.(2014) revealed that laser leveller, Rotovator, MB plough, plankers, sprayers, disk harrow, bund maker, zero drill, trolley, potato seeder, potato digger and paddy transplanters were offered for agriculture. Hiremath et al. (2015) in their study to know the performance of farm machinery services in Raichur district Karnataka reported that the machineries provided by the Custom Hiring Service Centres (CHSC) were Tractor, Rotovator, Multicrop Thresher, MB plough, Cultivator, Leveller blade, Blade

Harrow, Seed cum Fertilizer Drill, Knapsack sprayer, Power weeder and Winnowing Fan. The study concluded that performance of CHSCs in Raichur district have greatly helped the mechanization of farming operations of small and marginal farmers.

**Table 1. Distribution of respondents according to the various services of custom hiring centres (N=80)**

| S.n. | Implements                        | Frequency | Percentage |
|------|-----------------------------------|-----------|------------|
| 1.   | Tractor                           | 78        | 97.50      |
| 2.   | Rotavator                         | 69        | 86.25      |
| 3.   | Seed cum fertilizer drill machine | 50        | 62.50      |
| 4.   | Thresher                          | 75        | 93.75      |
| 5.   | Cultivator                        | 54        | 67.50      |
| 6.   | Reversible plough                 | 58        | 72.50      |
| 7.   | Raised bed planter                | 59        | 73.75      |
| 8.   | Straw reaper                      | 64        | 80.00      |

#### **Constraints expressed by respondents while availing the services of custom hiring centres and suggestions to overcome them**

Regarding constraints (table 2) expressed by the respondents, majority of the respondents (81.25 %) reported lack of proper knowledge about CHSC followed by non-availability of machineries during peak season (75.00 %), loss of soil structure and texture after using heavier farm machineries (72.50 %), less number of government CHC (60.00 %), low quality of farm machineries (41.22 %), fragmented land holdings (40.00 %), the implements and machineries require frequent repair (36.25 %) and hiring charges were not affordable (25.00 %). Similar finding is reported by Shambhu and Ram (2007), Singh et al. (2013), Parashunath et al. (2016), Nissa et al. (2017).

**Table 2. Distribution of respondents according to their constraints expressed in availing services of CHC (N=80)**

| S.n. | Constraints                                        | Frequency | Percentage | Rank |
|------|----------------------------------------------------|-----------|------------|------|
| 1.   | Non availability of machineries during peak season | 60        | 75.00      | II   |

|    |                                                                          |    |       |     |
|----|--------------------------------------------------------------------------|----|-------|-----|
| 2. | Less number of government CHC                                            | 48 | 60.00 | IV  |
| 3. | Fragmented land holdings                                                 | 32 | 40.00 | VI  |
| 4. | Hiring charges are not affordable                                        | 20 | 25.00 | VII |
| 5. | Low quality of farm machineries                                          | 33 | 41.22 | V   |
| 6. | Lack of proper knowledge about CHSC                                      | 65 | 81.25 | I   |
| 7. | Loss of soil structure and texture after using heavier farm machineries. | 58 | 72.50 | III |

### **Suggestions expressed by the farmers to overcome the constraints in utilizing CHS**

Table 3 reveals the suggestions expressed by the farmers to overcome the constraints in utilizing the CHS. Majority of the respondents (90.00 %) suggested dissemination of technical know-how with respect to appropriateness of farm machinery suited to situation followed by establishment of more number of CHC under one *panchayat* (88.75%), easy access to CHC (83.75%), support service through government agencies (62.50%), assistance through bank in availing the hiring services (61.25%), availability of different types of machineries (57.50%), and provision of training to farmers and artisans related to farm machineries and equipment (52.50%). This finding is in line with the findings of Singh (2005) on his study reviewed scope, progress and constraints of farm mechanization in India, suggested to establish custom hiring centres, cooperative management of farm machinery, establishment of standardization and quality-marking centres of farm equipments, dissemination of technical know-how with respect to appropriateness of farm machineries suited to situation and providing training to farmers and artisans related to farm machineries and equipments. Another study by Verma and Tripathi (2015), on perspective of agricultural mechanization in Supaul district of North Bihar suggested consolidation of fragmented and scattered land holdings, providing subsidy to small and large scale farmers, establishment of farm machinery banks, providing credit at lower interest rates to individuals for establishment of CHCs and reduction of tax and duties to set up manufacturing units in the areas with lower farm mechanization etc. Whereas, Shobha et al. (2018) in their study on farm mechanization level of farmers in North Karnataka opined that there is more scope for developing state agriculture departments for introducing more schemes on farm machineries, agro industries corporations, private machine owners, co-operative societies for introduction of custom hiring centres so the farmers can use the machines on payment basis and conducting farm

machinery exhibition to encourage the farmers to know about the importance of farm mechanization.

**Table 3. Distribution of respondents according to their opinion to overcome the constraints faced while availing the CHS (N=80)**

| S.n. | Suggestions                                                                                               | Frequency | Percentage | Rank |
|------|-----------------------------------------------------------------------------------------------------------|-----------|------------|------|
| 1.   | Establishment of more number of CHC under one panchayat                                                   | 71        | 88.75      | II   |
| 2.   | Availability of different types of machineries                                                            | 46        | 57.50      | VI   |
| 3.   | Dissemination of technical know-how with respect to appropriateness of farm machinery suited to situation | 72        | 90.00      | I    |
| 4.   | Provision of training to farmers and artisans related to farm machineries and equipment                   | 42        | 52.50      | VII  |
| 5.   | Support services through government agencies                                                              | 50        | 62.50      | IV   |
| 6.   | Assistance through bank in availing the hiring services                                                   | 49        | 61.25      | V    |
| 7.   | Easy access to CHC services                                                                               | 67        | 83.75      | III  |

## Conclusions

From this study, it can be concluded that Tractor, Thresher, and Rotavator were the top three among the most used CHS followed by other studied machines and least used machine was seed cum fertilizer drill machine. Among major constraints faced by the farmers, top three constraints were lack of proper knowledge about CHS, non-availability of machineries during peak season, and loss of soil structure and texture after using heavier farm machineries. We found that least constraint was the payable charges in return of using machineries. It was reported in the present study that respondents themselves had opinion for the dissemination of technical know-how with respect to farm machinery suited to situation, and they wanted for establishment of more number of CHSC under one Panchayat priority wise. We may conclude, in overall, from this research that as per the opinion, usage and constraints of farmers, the facilities of implements such as Tractors, Threshers, and Rotavator should be

made available especially during peak season in a Panchayat and more awareness should be spread among farmers regarding CHSC.

### **Recommendations**

This research indicated that custom hiring services has emerged as a good and efficient alternative for labors in agricultural operations for the farmers. It was observed that farmers were ready to pay rental charges for machineries they would use. Nonetheless, rental facilities of such machines for considerable period of time may enhance agricultural operations and help in improving the income from produce of the farmers. We recommend that government policy should be drafted more cohesively in regard to the area near Jabalpur, Madhya Pradesh for assisting in improving the income of farmers.

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