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## **Assessment Study on Custom Hiring Centers (CHCs) and Its Services for Farmers in Khandwa District of Madhya Pradesh**

**Subhash Rawat<sup>1\*</sup>, Monika Jaiswal<sup>2</sup>, Kunal Bhalave<sup>3</sup>, D. K. Vani<sup>1</sup> and C. P. Rahangdale<sup>4</sup>**

<sup>1</sup>KVK (Krishi Vigyan Kendra) Khandwa, Rajmata Vijayaraje Scindia Krishi Vishwavidyalaya, Gwalior, (M.P.), India.

<sup>2</sup>KVK (Krishi Vigyan Kendra), Burhanpur, Rajmata Vijayaraje Scindia Krishi Vishwavidyalaya, Gwalior, (M.P.), India.

<sup>3</sup>College of Agriculture Engineering, JNKVV, Jabalpur, M.P., India.

<sup>4</sup>KVK (Krishi Vigyan Kendra), Mainpat, Indira Gandhi, Krishi Vishwavidhyalay, Raipur, C.G., India.

### **Authors' contributions**

*This work was carried out in collaboration among all authors. Authors SR, MJ and DKV designed the study and performed the statistical analysis. Author KB managed the literature searches. Author CPR managed the analyses of the study, wrote the protocol and performed the manuscript. All authors read and approved the final manuscript.*

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### **ABSTRACT**

The study was conducted in Khandwa district of Madhya Pradesh during the year 2017-2019. At present there are 50 CHCs working at different locations to make available various farm machinery/equipment to small and marginal farmers and to improve farm mechanization in place with low farm power availability in Khandwa district. The present study was carried out to find out the factors affecting smooth functioning of CHCs and record the views of custom hiring farmers on of CHCs services in Khandwa district of Madhya Pradesh. The data were collected through personal interview method with the help of pre-structured scheduled designed. On the farmers response basis, it was revealed that the adoption by the farmers of the relevance of technologies i.e. CHCs

\*Corresponding author: E-mail: rawatext80@rediffmail.com;

was not only affected by the basic characteristics of CHCs but also by its owner's level of education, land holding, previous experience, requirement and availability of implements and machinery. On farmers response basis, it was also revealed that, CHCs is 100% beneficial to farmers, 90% farmers were satisfied with CHCs services, 75% farmers responded that there is nearby availability of CHCs, 70% farmers were satisfied with machinery of CHCs and 64% of them agree with Govt. rates of CHCs.

**Keywords:** *Agricultural machineries; custom hiring centers; views; adoption; problems, services.*

## 1. INTRODUCTION

Madhya Pradesh is the second largest state of India, covering 9.5 per cent of the country's geographical area (308,000 Sq.) and 6 per cent of nation's population (72.5 million). It has registered 20.3 per cent of decadal growth (Census 2011), higher than national average but population density in the state (236 per sq. km as against 382 of India) is lower than national average. Madhya Pradesh is predominantly an agrarian economy with agriculture, animal husbandry and fisheries being the nucleus of the primary sector in the state. The state has grater dependence on agriculture, both from an economic as well as employment perspective and relative contribution of agriculture sector to the state economy has reduced from 23.85% to 20.93%.

Custom hiring envisages promoting establishment farm machinery for hiring. The custom hiring centers (CHCs) offer farm equipment and machinery on rental basis to farmers who cannot afford to purchase high end agriculture machineries and equipment [1,2]. The CHCs play a vital role in introducing high technology agriculture machineries to even small farmers with the objectives to boost crop production, improve quality, timeliness and efficiency of agricultural operation [3]. It is also amply clear that the current dispensation of the CHCs in India is in two interventions viz. Pre harvest and during harvest. CHCs for farm implements were established in 100 NICRA villages, which could successfully empower farmers to tide over the shortage of labour and improve efficiency of agricultural operations. A committee of farmers' nominated by the gramsabha manages the CHC. While 286 CHCs were set up in the first year of the scheme (2012-13), the number rose to 444 in 2014-15 and 475 in 2015-16. 2016-17, the state has set a target of 612 centres.

In Khandwa district at present there are 53 CHCs working at different locations to make available

various farm machinery/equipment to small and marginal farmers and to improve farm mechanization in place with low farm power availability. Keeping in view, the functioning of CHCs, the present study was carried out to find out the factors affecting smooth functioning of CHCs and record the views of custom hiring farmers on CHCs services in Khandwa district of Madhya Pradesh.

## 2. METHODOLOGY

The study was carried out in Khandwa District of Madhya Pradesh. Various locations in the district CHCs have providing services to need full farmers. All 50 CHCs were in 07 blocks of Khandwa were selected for the present study. 50 respondents were selected from the ten villages of CHCs through simple random sampling method for this study. Prepared structured interview schedule, the personal interview was conducted for data collection. Visits to the CHCs and discussed with owner of CHCs and also shared findings with department of Agriculture Engineering and Progressive farmers. After the collection of data, data were classified, tabulated, analyzed and interpreted and drawn inferences for meaningful conclusions. The list of CHCs, which were selected for study in Khandwa district given Table 1.

## 3. RESULTS AND DISCUSSION

### 3.1 Status of CHCs and Their Owners

It was observed, that from year 2012 to year 2018 there was 53 CHCs, and those were active in Khandwa district (Table 2). Present study showed, 60.37% CHCs owners had more than 10 acre land holdings followed by 32.00% had 5 to 10 acre land holding and 07.54% CHCs owner had up to 5 acre of land holding (Table 3). It was also observed, 77.36% CHCs owners had secondary occupation and 22.64% farmers had primary education (Table 4). This study also showed 66.04% owners were having graduate degree (Table 5). During the study, it was

**Table 1. List of CHCs selected for study in Khandwa district**

S. No.	Blocks	CHCs Nos.	Village Location
1	Khandwa	16	Jaswadi, Shirpur, Kotwada, Korgla, Bedyao, Ahmudpur, Bavdiya, Amalpura, Dhanora, Bhadareya, Kanwani, Borgoan, Nhalda, Badgoanmali, Kahalari, Bilaya
2	Punasa	10	Dhawdiya, Gujerkhade, Bhogoan, Sulgoan, Netangoan, Gunjali, Bijoramafi, Bijoramafi, Pipalya (Sailani), Morghadi, Bawadiya
3	Pundhana	11	Ranjni, Nandiya, Gandva, Singot, Bhagwanpura, Piplogkhas, Ardalakhurd, Aarud, Iachorakala, Balwada, Kalanka,
4	Chaigoanmakhan	04	Malgoan, Bherukhada, avliyavithul, Chirvel
5	Hursud	08	New Hursud, Ambakhal, Karodi Ray., Piplani, Bahedi Ray., Dotkheda, Sonkhade, Bori Saray
6	Khalwa	02	Sawlikheda, Khalda Police aabadi
7	Baldi	02	Nandana, Killod,
Total		53	

**Table 2. Year of establishment of custom hiring centers in Khandwa district**

S. No.	Year	Name of Block							
		Khandwa	Punasa	Pandhana	Chaigoanmakhan	Hursud	Khalwa	Baldi	Total
1	2012	01	-	-	-	01	-	-	02
2	2013	02	01	-	-	-	-	-	03
3	2014	07	01	02	01	-	-	-	11
4	2015	02	02	08	01	04	-	-	17
5	2016	-	-	-	-	01	01	01	03
6	2017	02	02	01	02	01	01	01	10
7	2018	02	04	-	-	01	-	-	07
8	2019	-	-	-	-	-	-	-	00
Total		16	10	11	04	08	02	02	53

observed about 80% owners having more than three years of experience in the field of machinery and farm implements operation (Table 6). From the study, it was also observed that, higher average income (Rs. 45300) was earned by CHCs owner during in summer season as compared to Kharif (Rs. 34500) and Rabi (Rs.34500) season (Table 8). The present study revealed that marginal and large farmers constitute above 90 percent of the land holdings. Hence, establishment of custom hiring centers provides an opportunity to the marginal and large-scale farmers to avail the services of the expensive machines on custom hiring basis [4]. The profit depends upon the revenue of the centre and the agriculture work availability during the seasons [5,6,7]. It was also observed that the centers that had experienced key-person were

performing better as compared to the non-experienced one [8,9].

### 3.1.1 Problems faced by CHCs owner

It was observed from the study that, 92.45% CHCs owner faced problem of rate fluctuation of work by others in providing better service followed by 73.58% of machinery service cost followed by 67.92% of availability of nearby machinery service center and least 22.64% of timely work payment (Table 9). During the study, CHCs owner faced different type of problems. Majority of CHCs owner suggested that the Government should take steps like fixing custom hiring rates for farm machinery and making fuel available at subsidized rates [10-12,3].

**Table 3. Distribution of land holdings of CHCs owner in Khandwa district**

S.No.	Size of Land/ Type of Farmers (F=53)	Nos.	Percent (%)	Rank
1	Up to 5 acre	04	07.54	III
2	5 to 10 acre	17	32.00	II
3	More than 10 Acre	32	60.37	I
Total		53	100.00	

**Table 4. Distribution of primary and secondary occupation of CHCs owner**

S.No.	Occupation (F=53)	Nos.	Percent (%)	Rank
1	Primary	12	22.64	II
2	Secondary	41	77.36	I
Total		53	100.00	

**Table 5. Distribution of education level of CHCs owner in Khandwa district**

S.No.	Education level (F=53)	Nos.	Percent (%)	Rank
1	Up to 12 <sup>th</sup>	07	13.20	III
2	Graduate	35	66.04	I
3	Post Graduate	11	20.76	II
Total		53	100.00	

**Table 6. Distribution of previous experience on machinery and implements operation of CHCs owner in Khandwa district**

S.No.	Experience in years (F=53)	Nos.	Percent (%)	Rank
1	Up to 1 year	3	05.00	III
2	1 to 3 Years	8	15.00	II
3	More than 3 years	43	80.00	I
Total		53	100.00	

**Table 7. Distribution of implements (name and number) of CHCs owner in Khandwa district**

S.No.	Implements	Nos.	Percent (%)	Rank
1	Rotavator	74	08.49	VI
2	Thresher	64	07.34	VIII
3	Harrow	59	06.77	IX
4	Combiner	02	00.23	X
5	Plough	76	08.71	V
6	Seed drill	90	10.32	IV
7	Tractor	102	11.69	II
8	Disc Plough	59	06.77	IX
9	Cultivator	98	11.24	III
10	Seed cum fertilizer drill	64	07.34	VIII
11	Raised bed planter	69	07.91	VII
12	Others	115	13.19	I
Total		872	100.00	

**Table 8. Average seasonal income from CHCs by CHCs owner in Khandwa district**

S. No.	Season	Average Income (Rs.)
1	Kharif	34,500
2	Rabi	38,950
3	Summer	45,300

**Table 9. Problems faced by CHCs owner for providing better services**

S.No.	Category (F=53)	Nos.	Percent Positive Resp5 acres onse(%)	Rank
1	Farmer contacts	15	28.30	IX
2	Timely work Payment	12	22.64	X
3	Timely maintenance of Implements	26	49.06	V
4	Availability machinery service center	36	67.92	III
5	Machinery service cost	39	73.58	II
6	Demand of Implements	18	33.96	VII
7	Rate fluctuation of work by others	49	92.45	I
8	Is farmers are aware with CHCs ?	20	37.73	VI
9	Lack of timely availability of services	16	30.19	VIII
10	Any demand of new Implements/ machinery from farmers	34	64.15	IV

### 3.2 Views of Custom Hiring Farmers on Custom Hiring Services

The present study showed, 100% CHCs farmers responded that CHCs were beneficial to them. 90% farmers were satisfied with CHCs services, 74% responded that CHCs were located nearby areas, 70% of farmers were satisfied with CHCs machinery, 64% farmers were agreeing with Govt. rates of custom hiring services, 50% farmers responded that, it is easy to approach with CHCs. 44% farmers were satisfied with

timely availability of CHCs machinery, whereas only 40% farmers satisfied with the cost of machinery at CHCs (Table 10). The Custom Hiring Centers offers farm equipment's and machineries on rental basis to small and marginal farmers who cannot afford to purchase high cost agricultural machineries and equipment's. Therefore, CSCs an important mechanism through which most small holders can access services of agricultural machinery and beneficial for majority of farmers [6,9,12,2].

**Table 10. Views of custom hiring farmers on custom hiring services**

S. No.	Questions for custom hiring farmers (F=50)	Nos.	Percent (%)	Rank
1	Is it easy to approach with CHCs?	25	50	VI
2	Are you satisfied with timely availability of CHCs machinery?	22	44	VII
3	Are you satisfied with machinery of CHCs?	35	70	IV
4	Are you satisfied with the cost of machinery CHCs?	20	40	VIII
5	Are you agreeing with Govt. rates of custom hiring services?	32	64	V
6	Are you satisfied with services of CHCs?	45	90	II
7	Is there availability of CHCs nearby?	37	74	III
8	Is beneficial to farmers CHCs?	50	100	I
9	Why (any two or three point other than above discussed ) <ul style="list-style-type: none"> <li>Any documents are not required for placing order to work.</li> <li>Maximum time services available only on single phone call.</li> </ul>			

#### 4. CONCLUSIONS

It was concluded that, the adoption by the farmers of the relevance of technologies i.e. CHCs was not only affected by the basic characteristics of CHCs but also by its owner's level of education, land holding, previous experience, requirement and availability of implements and machinery. On farmers response basis, it was also revealed that, CHCs is 100% beneficial to farmers, 90% farmers were satisfied with CHCs services, 75% farmers responded that there is nearby availability of CHCs, 70% farmers were satisfied with machinery of CHCs and 64% of them agree with Govt. rates of CHCs. From the study, it was also concluded that, CSCs an important mechanism through which most marginal and small holders can access services of agricultural machinery and the beneficial for majority of farmers.

#### CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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