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Constraints faced by farmers in adoption of improved farm implements recommended by Vasantrao Naik Marathwada Krishi Vidyapeeth

■ J.G. Sanap and R.P. Kadam*

Department of Extension Education, College of Agriculture, Vasantrao Naik Marathwada Krishi Vidyapeeth, PARBHANI (M.S.) INDIA

(Email: rpk.mkv@gmail.com)

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*Author for correspondence

ABSTRACT

The study was conducted in purposively selected three talukas *viz.*, Jintur, Parbhani and Purna of Parbhani District of Marathawada region of Maharashtra state during the year 2014-15. From each taluka, four villages selected purposively and from each village10 respondents were selected purposively, there by constituting a total sample size of 120 respondents. Data were collected by using personal interview method. The collected data were tabulated, analyzed and interpreted with the help of appropriate statistical tools. Majority of respondents were facing the constraints like lack of proper leadership, lack of risk taking ability, non-availability of credit on proper time, bank procedure for finance are very complicated, price fluctuation etc. and suggestions obtained to overcome the constraints are government or banks should provide loan on proper time, bank procedures should be made easy, government should provide farm implements at low price and should provide subsidy for purchasing implements.

INTRODUCTION

Agricultural mechanization embraces the use of tools, implements and machines for agricultural land development, crop production, harvesting and preparation for storage, storage, and on-farm processing. It includes three main power sources: human, animal, and mechanical. The manufacture, distribution, repair, maintenance, management and utilization of agricultural tools, implements and machines is covered under this discipline with regard as to how to supply mechanization inputs to the farmer in an efficient and effective manner. Improved farm implements and machinery are rightly called as inputs of input. It has been recognized as an integral part of agricultural development for improving resource use efficiency and productivity in agriculture. Improve farm implements are used for primary and secondary tillage operations, and harvesting of the crops, post harvest operations like threshing can also carried out with the help of improved farm implements and machinery. Improved farm implements perform field operations speedily, efficiently, uniformly and relieving the

farmers from drudgery of the physical work. The cropping systems like multiple and relay cropping can also possible with the help of improved farm implements. It means that, with proper use of improved farm implements farmers can produce more with minimum labour cost. Therefore, the present study knowledge and adoption of improved farm implements recommended by Vasantrao Naik Marathwada Krishi Vidyapeeth" was planned with the following specific objectives to study the profile of the respondents and to study the constraints faced by respondents and obtain their suggestions in adopting improved farm implements.

MATERIAL AND METHODS

The present study was purposively undertaken in the three talukas *viz.*, Jintur, Parbhani and Purna talukas of Parbhani district of Maharashtra state. Four villages were purposively selected from each taluka on the basis of higher number of respondents having farm implements. Thus, total twelve villages were purposively selected. From each selected village, 10 respondents were selected purposively by making a sample of 120 respondents. The present study was confined to ex-post-facto research design. The independent variables were measured by using suitable scale and procedure adopted by various researchers in past with due modification. The dependent variables taken in this study were knowledge and adoption of improved farm implements which was measured by developed structured schedule. An interview schedule was developed according to objectives of study and the data were collected by arranging personal interview with 120 respondents. The collected data were classified, tabulated and analyzed in order to make the findings meaningful. A simple ranking technique applied to measure the problems and suggestions to overcome problems of adoption of improved farm implements. The statistical tools used to analyze the data were percentage, mean score and standard deviation.

OBSERVATIONS AND ANALYSIS

The results obtained from the present investigation are presented below**:**

Socio-personal, characteristics of the farmer :

The personal, socio-economical, communicational, psychological and situational characteristics of the farmers were studied and the data have been given in Table 1. It was evident that more than one-third (36.66 %) of respondents were having secondary level of education followed by 25.00 per cent respondents in higher secondary level of education. Only 22.50 per cent respondents had education up to primary level whereas, 10.84 per cent respondents were illiterate and 5.00 per cent respondents had education up to college level. Most of the respondents (39.17 %) had semi- medium size of land followed by small (34.17 %), medium (15.83 %) and marginal (10.83 %). Whereas none of the respondents found in large land holding category. The majority (71.67 %) of the respondents had medium annual income, followed by 18.33 per cent and 10.00 per cent had high and low annual income, respectively. More than half of respondents (64 17.%) were having 9 to 22 years farming experience, whereas 20.83 per cent of the respondents were having farming experience of more than 23 years. While 50.00 per cent respondents were having farming experience less than 9 years. It was observed that most (78.33 %) of the respondents were in medium social participation group, followed by 13.34 per cent of the respondents having low level of social participation and 8.33 per cent of them had high social participation. As far as extension contact of the respondents was concerned, 70.00 per cent of them had medium extension contact followed by 16.67 per cent having low extension contact and only 13.33 per cent farmers were having high extension contact. Majority of the respondents (70.00 %) had medium level of utilization of sources of information, about 15.83 per cent of the respondents having low level of utilization of sources of information followed by 14.17 per cent of the respondents having high level of sources of information. It was noticed that most (73.33 %) of the respondents had medium economic motivation followed by low (19.17 %) economic motivation and high (7.50 %) economic motivation. It was observed that half of the (60.83 %) respondents had medium level of risk orientation followed by high (21.67 %) and low (17.50 %) risk orientation.

The constraints faced by the respondents in adoption of improved farm implements:

Social constraint :

It is observed from Table 2 that 81.66 per cent of the respondents reported that lack of proper leadership and it ranks first, Whereas 75.83 per cent of the

respondents expressed that lack of risk tasking ability which ranks second, 75.00 per cent of the respondents expressed that lack of help from other person and it ranks third, while 70.83 per cent of the respondents reported that they are using traditional methods.

Economic constraint :

The Table 2 further indicates that 96.66 per cent of the respondents reported that there is non-availability of credit at proper time and it ranks first. Whereas 93.33 per cent of the respondents expressed that the bank

Table 1 : Distribution of the respondents according socio personal characteristics

Sr. No	Category	Frequency	Percentage
Education			
1.	Illiterate	13	10.84
2.	Primary (1-4 std)	27	22.50
3.	Secondary (5-7 std)	44	36.66
4.	Higher secondary (7-12 std)	30	25.00
5.	College level	06	5.00
Land holding			
1.	Marginal (upto 1 ha)	13	10.83
2.	Small (1.1 to 2 ha)	41	34.17
3.	Semi-medium (2.1 to 4 ha)	47	39.17
4.	Medium (4.1 to 10 ha)	19	15.83
5.	Large (10.1 ha and above)	0	0.00
Annual income			
1.	Low (upto Rs.93638.59)	12	10.00
2.	Medium (Rs.93639-Rs.575111.39)	86	71.67
3.	High (Rs.575111.40 and above)	22	18.33
Farming experience			
1.	Experience upto 9 years	18	15.00
2.	Experience in between 10-22 years	77	64.17
3.	Experience above 23 years	25	20.83
Social participation			
1.	Low (upto 2.46)	16	13.34
2.	Medium (2.47-4.14)	94	78.33
3.	High (4.15 and above)	10	8.33
Extension contact			
1.	Low (upto 1.59)	20	16.67
2.	Medium (1.60-4.64)	84	70.00
3.	High (4.65 and above)	16	13.33
Source of information			
1.	Low (upto 16.86)	19	15.83
2.	Medium (16.87-26.87)	84	70.00
3.	High (26.88 and above)	17	14.17
Economic motivation			
1.	Low (upto 17.36)	23	19.17
2.	Medium (17.37-23.14)	88	73.33
3.	High (23.15 and above)	9	7.50
Risk orientation			
1.	Low (upto 17.30)	21	17.50
2.	Medium (17.31-21.78)	73	60.83
3.	High (21.79 and above)	26	21.67

procedure for finance is very difficult which ranks second. While 90.00 per cent respondents expressed lack of finance and it ranks third. However 86.66 per cent of the respondents reported that there is price fluctuation, while eighty five per cent of the respondents expressed that implements are very costly.

Technical constraint :

Table 2 indicate that 75.00 per cent of the respondents expressed that they are facing lack of technical knowledge and it ranks first, whereas 73.33 per cent respondents faces constraint like need of high level of knowledge about how to use improved farm implements.

Constraint on the basis of condition :

It is further observed that 95.00 per cent of the respondents faced that it is difficult to repair implement in village which ranks first, whereas 80.00 per cent of the respondents having the constraint of less area and not having plain field and it ranks second. While half of the respondents expressed that non-availability of labours

Table 2 : Constraints faced by the respondents in adoption of improved farm implements **(n= 120)**

Sr. No	Independent variables	No	%	Rank
Social constraints				
1.	Lack of proper leadership	98	81.66	I
2.	Lack of risk taking ability	91	75.83	II
3.	Lack of help from other person	90	75.00	III
3.	More use of traditional methods	85	70.83	IV
Economic constraints				
1.	Supply of credit is not on proper time	116	96.66	I
2.	Bank procedure for finance is complicated	112	93.33	II
3.	Lack of finance	108	90.00	III
4.	Price fluctuation	104	86.66	IV
5.	Very costly implements	102	85.00	V
Technical constraints				
1.	Lack of technical knowledge	90	75.00	I
2.	Need of high level of knowledge about how to use improved farm implements	88	73.33	II
Constraints on the basis of condition				
1.	Difficult to repair implement in village	114	95.00	I
2.	Less area and not plain field	96	80.00	II
3.	At the time of sowing lack of labour	60	50.00	III

Table 3 : Distribution of respondents according to their suggestions **(n= 120)**

Sr. No.	Suggestion	No	%	Rank
1.	There should be facility of repairing implements in villages.	114	95.00	I
2.	Government should provide seeds and fertilizers at proper time and in more quantity.	113	94.16	II
3.	Government should provide improved farm implements at low prices.	110	91.66	III
4.	Government should give proper prices to agricultural produce.	106	88.33	IV
5.	Farmers should get loan at low interest.	98	81.66	V
6.	Farmers should get loan at proper time	93	77.50	VI
7.	Procedure for getting loan from bank should be easy.	92	76.66	VII
8.	For providing technical knowledge about implements university experts should provide guidance to farmers by conducting krishi melava.	85	70.83	VIII
9.	In villages load shedding hours should be reduced.	80	66.66	IX
10.	University should provide information about improved farm implement immediately after research	70	58.33	X
11.	Government should waive off loan during drought period.	66	55.00	XI
12.	Good leadership should be available among farmers for proper direction.	60	50.00	XII
13.	Government should provide subsidy for purchasing implements.	45	37.50	XIII
14.	Government should start various schemes for farmer's welfare.	35	29.17	XIV
15.	Government should establish implement repairing center in each Taluka.	30	25.00	XV

at the time of sowing.

The above findings are similar with the findings of Nemade (2007); Bedre (2009); Sawale (2011); Attar (2012); Sasane *et al*. (2012); Nagraj *et al*. (2013); Mahanavar (2013) and Shinde (2014).

Suggestions obtained from respondents :

It is observed from Table 3 that 95.00 per cent respondents suggested that there should be facility of repairing implements in their own villages and 94.16 per cent respondents suggested that government should provide seeds and fertilizers at proper time and in more quantity, whereas 91.66 per cent suggested that government should provide improved farm implements at low prices. It can be seen from Table 3 that 88.33 per cent respondents suggested that government should give proper prices to agricultural produce, whereas 81.66 per cent respondents suggested that they should get loan at low interest, while 77.50 per cent respondents suggested that they should get loan at proper time, 76.66 per cent suggested that procedure for getting loan from bank should be easy.

Table 3 showed that 70.83 per cent respondents suggested that Krishi Melava should be conducted for providing technical knowledge, 66.66 per cent suggested to reduce load shedding, 58.33 per cent respondents suggested that university should provide information about improved farm implements immediately after research, 55.00 per cent respondents suggested that government should way of loan during drought period, 50.00 per cent suggested to have good leadership for proper direction.

Whereas 37.50 per cent respondents suggested that government should provide subsidy for purchasing implements, 29.17 per cent suggested that government should start various schemes for farmers welfare and 25.00 per cent respondents suggested that government should establish implement repairing center in each Taluka.

Conclusion:

The majority of the respondents having secondary and higher secondary education, semi medium size of land holding, having annual income between Rs. 93639 to Rs. 575111.39, having farming experience between 10-22 years, medium social participation, extension contact, source of information, economic motivation and risk orientation, respectively. Regarding problems of farm implements majority of the respondents facing the problems like, "lack of proper leadership, lack of risk taking ability, supply of credit is not on proper time, bank procedure for finance are complicated, price fluctuation, costly implements, lack of technical knowledge. The important suggestions were given by the respondents to solved these problems faced were, "there should be facility of repairing implements in villeges, government should provide farm implements at low prices, government should provide subsidy for purchasing implements and government should established implement repairing center in each taluka."

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