



RESEARCH PAPER

A study of constraints analysis encountered by gram growers in adoption of improved cultivation practices

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Abstract : The present study was proposed to find out the constraints perceived and suggestions to overcome the constraints by the farmers, the study was planned and conducted. Working to this fact, the present study was undertaken on a purposive sampling of 120 chickpea growers of Bhiwani district of Haryana state. Findings revealed that in respect of constraints in adoption of chickpea production technology, it was found that majority (99.33%) respondents reported that “lack of promising varieties” was main constraint among input and production constraint while 98.66% of respondents considered “incidence of weed menace” as serious problem followed by 98.33%, 98%, 97.66% of respondents had problem of “moisture stress under rain fed conditions”, “lack of nutrients in soil and sufficient soil testing facilities”, respectively. Among technical constraints, it was reported that the majority (91.66%) of respondents found that the “lack of demonstration and training” was major constraint faced by them. While 88.66% respondents faced the problem of “lack of knowledge on location specific improved varieties of chickpea”, followed by (69.33%) respondents had problem of “lack of knowledge regarding agronomical practices of chickpea”. It was reported that among financial constraints, it was found that 88% respondents faced problem of “higher rate of interest on loans” followed by (64.66%) respondents had major problem of “high cost of labour”. While 64.33% respondents considered major problem of “high cost of agrochemicals” followed by 48% and 47% respondents had major problem of “lack of credit facility” and “lack of finance for purchase of inputs”, respectively. In marketing constraints, it was observed that the majority (96.66%) of respondents had major problem of “procurement of produce is not done by the government” followed by “lack of cooperative organization” faced by 66% respondents.

Key Words : Chickpea, Production constraints, Technical constraints, Financial constraints, Marketing constraints, Cultivation practices

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INTRODUCTION

Gram is leguminous pulse crop which belongs to leguminaceae family and chromosome number is $2n=14, 16$. Among these pulse crops, chickpea is the most

important crop grown in *Rabi* season (Thoke and Gunjal, 2009). It is best pulse crop from nutrition point of view. or Gram is consumed in various forms *viz.*, *Dal*, besan (flour) crushed or wholegrain boiled or parched, green

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grain and foliage and vegetables (Singh *et al.*, 2015). Pulses are main source of protein in vegetarian diet. Legume has unique role in human and animal nutrition as well as in improvement of soil fertility by improving physico-chemical and biological properties of the soil (Khare *et al.*, 2013). It has been proved very good fodder for milking animals. The floor is used in preparing different products. The malic acid and Oxalic acid present in Bengal gram plant is used in medicine preparation. India is the largest chickpea producer as well as consumer in the world (Jat *et al.*, 2016). The major chickpea producing states are Andhra Pradesh, Madhya Pradesh, Rajasthan, Uttar Pradesh, Maharashtra, Haryana, Karnataka, Gujarat, Bihar and West Bengal (Kathal *et al.*, 2015). The productivity has declining in chickpea day by day. This has happened due to persistent problem of biotic factors (insect and disease), abiotic factors (climate, uncertain rainfall, excessive temperature, etc.), institutional and infrastructural constraints, technology related constraints, marketing constraints and financial constraints.

Objective :

To identify the constraints perceived in adoption of chickpea production technology.

MATERIAL AND METHODS

The investigation was conducted in Bhiwani district of Haryana state. Further, two blocks were selected randomly from Bhiwani district and from each block, two villages were selected, randomly and thereby a total number of four villages were selected for data collection. From each block, two villages were randomly selected. Thus, total four villages were selected, namely, Khanak and Kirawar from Tosham and Gaiandas and Barwa from Siwani. Thirty farmers from each village were selected, randomly. Therefore, a total number of one hundred twenty farmers were interviewed. Constraints are operationalized as the situation or circumstances, which may impede, restrict or limit the acceptance of recommended chickpea production technologies by gram growers. A list of constraints was prepared and farmer were asked to speak out there responses against each constraint very serious, serious and not so serious by assigning the score of 3, 2 and 1, respectively. Aggregate total score calculated for all constraint separately, based on calculated score; a weighted mean score for each constraint was obtained and by weighted mean score,

percentage was obtained and ranked according to maximum mean scores for assessing the seriousness of constraints. The maximum mean score and percentage so obtained were given rank 1st and the next subsequent one was given 2nd and so on the descending orders.

RESULTS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

Constraints in adoption of chickpea cultivation as perceived by respondents :

It is observed in Table 1 that among the input and production constraints the 'lack of promising varieties' was the main constraints faced by the farmers with 99.33 per cent and 1st rank. 'Incidence of weed menace' was also considered as a serious problem with 98.66 per cent with 2nd rank followed by 'inadequate rain at critical stages for irrigation', 'moisture stress under rain fed condition', 'lack of nutrients in soil and sufficient soil testing facilities' with 98.33 per cent, 98 per cent, 97.66 per cent with 3rd, 4th and 5th rank, respectively (Fig. 1). The similar findings were observed by Satyanarayana (1988) that major constraints in pulse production are weed menace and moisture stress under rain fed condition.

It is recorded in Table 2 that among the technical constraints, the 'lack of demonstration and training' was very serious constraints faced by the farmers with 91.66 per cent with 1st rank. 'Lack of knowledge on location specific improved varieties of chickpea' is also main constraints faced by the farmers with 88.66 per cent with 2nd rank followed by 'lack of knowledge regarding improved agronomical practices of chickpea' with 69.33 per cent with 3rd rank (Fig. 2).

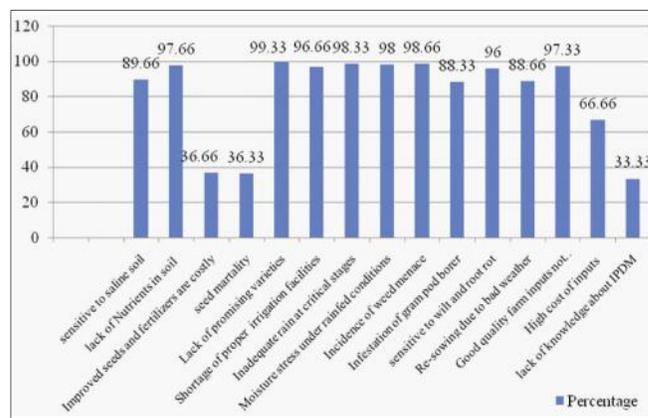


Fig. 1 : Input and production constraints

The data contained in Table 3 indicated that constraints namely, 'Higher interest rate on loans' ranked at top with 88.00 per cent followed by 'high cost of labour' and 'high cost of agrochemicals' ranked at second and third with 64.66 per cent and 64.33 per cent respectively followed by 'lack of credit facility' and 'lack

of finance for purchase of input' ranked at fourth and fifth with 48.00 per cent 47.00 per cent, respectively (Fig. 3).

It is evident from the Table 4 that 'Procurement of produce is not done by the government' was the most serious constraint among marketing constraints ranked

Table 1 : Inputs and production constraints

Sr. No.	Particulars	Very serious (3)	Serious (2)	Not so serious (1)	Total score	Weighted mean score	%age	Rank
1.	Chickpea is sensitive to saline soil	101(303)	1(2)	18(18)	323	2.69	89.66	IX
2.	Lack of nutrients in soil and lack of sufficient soil testing facilities	114(342)	04(8)	02(2)	352	2.93	97.66	V
3.	Improved seeds and fertilizers are very costly	04(12)	05(10)	111(111)	133	1.10	36.66	XIII
4.	Improved seeds and fertilizers are very costly	02(6)	07(14)	111(111)	131	1.09	36.33	XIV
5.	Lack of promising varieties	118(354)	02(4)	0(0)	358	2.98	99.33	I
6.	Shortage of proper irrigation facilities	111(333)	06(12)	03(3)	348	2.90	96.66	VII
7.	Inadequate rain at critical stages	114(342)	06(12)	0(0)	354	2.95	98.33	III
8.	Moisture stress under rainfed conditions	113(339)	7(14)	0(0)	353	2.94	98.00	IV
9.	Incidence of weed menace	117(351)	02(4)	01(1)	356	2.96	98.66	II
10.	Infestation of gram pod borer	97(291)	05(10)	18(18)	319	2.65	88.33	XI
11.	Chick pea is sensitive to wilt and root rot	110(330)	06(12)	04(4)	346	2.88	96.00	VIII
12.	Re-sowing due to bad weather	97(291)	6 (12)	17(17)	320	2.66	88.66	X
13.	Good quality farm inputs like seeds, fertilizers, pesticides are not available in time	114(342)	03(6)	03(3)	351	2.92	97.33	VI
14.	High cost of inputs like seed, fertilizers, bio-fertilizer and pesticides	52(156)	17(34)	51(51)	241	2.00	66.66	XII
15.	Lack of knowledge about integrated pest and disease management	0(0)	0(0)	120(120)	120	1.00	33.33	XV

Table 2 : Technical constraints

Sr. No.	Particulars	Very serious (3)	Serious (2)	Not so serious (1)	Total score	Weighted mean score	%age	Rank order
1.	Lack of knowledge on location specific improved varieties of chick pea	90(270)	20(40)	10(10)	320	2.66	88.66	II
2.	Lack of knowledge about seed treatment	0(0)	0(0)	120(120)	120	1.00	33.33	V
3.	Lack of demonstration and training	50(150)	30(60)	40(120)	330	2.75	91.66	I
4.	Lack of knowledge about insect, pest and diseases control	32(96)	56(112)	32(32)	240	2.00	66.66	IV
5.	Lack of knowledge regarding improved agronomical practices of chickpea	37(111)	56(112)	27(27)	250	2.08	69.33	III

Table 3 : Financial constraints

Sr. No.	Particulars	Very serious (3)	Serious (2)	Not so serious (1)	Total score	Weighted mean score	%age	Rank
1.	Lack of credit facility	11(33)	31(62)	78(78)	173	1.44	48.00	IV
2.	Lack of finance for purchase of input	10(30)	30(60)	80(80)	170	1.41	47.00	V
3.	High cost of agrochemicals	12(36)	88(176)	20(20)	232	1.93	64.33	III
4.	High cost of labour	46(138)	21(42)	53(53)	233	1.94	64.66	II
5.	Higher interest rate on loans	96(288)	05(10)	19(19)	317	2.64	88.00	I
6.	Complex procedure of bank loan	00(0)	00(0)	120(120)	120	1.00	33.33	VI

Table 4 : Marketing constraints

Sr. No.	Particulars	Very serious (3)	Serious (2)	Not so serious (1)	Total score	WMS	% age	Rank
1.	Lack of knowledge about proper place of marketing	0(0)	58(116)	62(62)	178	1.48	49.33	VI
2.	Low market price of chickpea at the time of harvesting	46(138)	54(108)	20(20)	266	2.21	73.66	III
3.	Less awareness about market news, intelligence and data bank	02(6)	06(12)	112(112)	130	1.08	36.00	VIII
4.	Lack of market information through reliable agency	02(6)	04(8)	114(114)	128	1.06	35.33	X
5.	Market is far away from village	9(27)	0(0)	111(111)	138	1.15	38.33	VII
6.	Lack of transport facilities	5(15)	3(6)	112(112)	133	1.01	33.66	XI
7.	Lack of co-operative organization	9(27)	103(206)	8(8)	241	2.00	66.66	IV
8.	Distress sales due to immediate need to money	37(111)	5(10)	78(78)	199	1.65	55.00	V
9.	Scarcity of agro-processing units	107(321)	9(18)	04(4)	343	2.85	95.00	II
10.	Procurement of produce is not done by the government	111(333)	6(12)	04(4)	349	2.90	96.66	I
11.	Government does not purchase chickpea at MSP	0(0)	0(0)	120(120)	120	1.00	33.33	XII
12.	Middlemen exploiting farmers	1(3)	7(14)	112(112)	129	1.07	35.66	IX

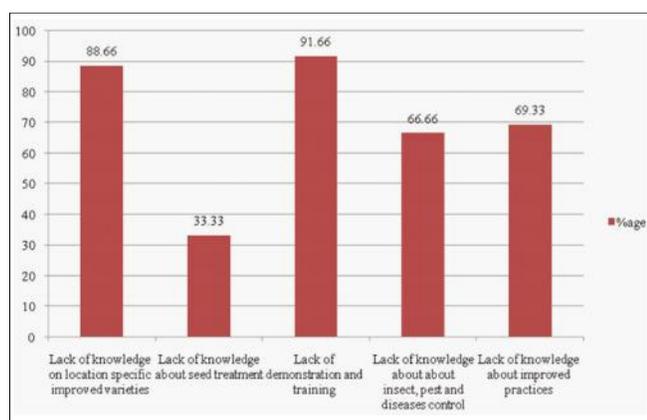


Fig. 2 : Technical constraints

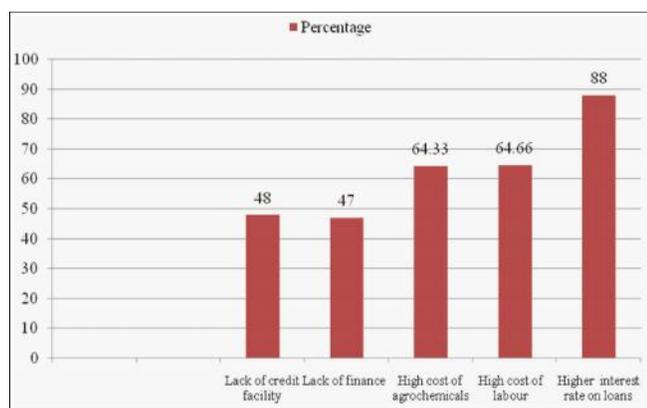


Fig. 3 : Financial constraints

1st with 96.66 per cent followed by ‘Scarcity of agro-processing units’ ranked 2nd with 95.00 per cent, ‘low market price of chickpea’ at the time of harvesting’ and ‘lack of co-operative organization’ ranked 3rd and 4th with

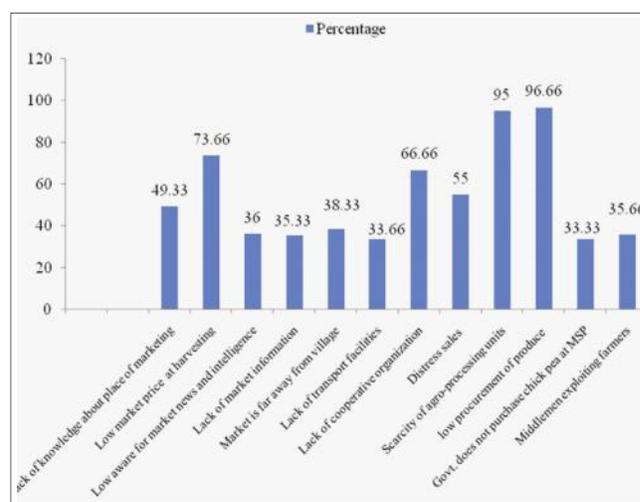


Fig. 4 : Marketing constraints

73.66 per cent with 66.66 per cent, respectively (Fig. 4). Yadav *et al.* (1997) reported low procurement of produce, low price to pulses and poor agro- based marketing infrastructure in chickpea growing areas.

Conclusion :

The findings of the study clearly revealed that lack of promising varieties, incidence of weed menace, inadequate rain at critical stages for irrigation, moisture stress under rain fed conditions, lack of nutrients in soil and sufficient soil testing facilities were major constraints among input and production constraints. Among technical constraints, major constraints were lack of demonstration and training, lack of knowledge on location specific improved varieties of chickpea. In case of financial

constraints, higher interest rate on loans, high cost of labor, high cost of agrochemicals were major constraints perceived by the respondents. It was reported that among marketing constraints, procurement of produce is not done by the government, scarcity of agro-processing units, low market price at the time of harvesting were serious constraints felt by the respondents.

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