



Research Article

## Adoption gap in recommended production practices of chickpea

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**SUMMARY :** The study was undertaken on 'adoption gap in recommended package of practices of chickpea' in Parbhani district of Marathwada region in Maharashtra state. The study of adoption gap was made in terms of profile of chickpea growers, knowledge, and relationship of independent variable with adoption gap and constraints faced by chickpea growers. It is found that majority of the respondents were having medium farming experience, land holding, risk orientation, economic motivation etc. It was observed that majority of the respondents were having medium level of adoption gap.

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### BACKGROUND AND OBJECTIVES

Chickpea (*Cicer arietinum* L.) is one of the most important pulses crop among all pulses. It is the premier pulse crop of Indian subcontinent. India is the largest chickpea producer as well as consumer in the world. During last 15 years chickpea has register significant increase in production (2.02%) per annum which is primarily due to introduction of high yielding and disease resistance varieties and adoption of improved technologies.

In India, the progress of transformation of traditional agriculture with intensive application of scientific technologies has been already started, but it was observed that not all farmers are taking to the improved farm practices, even though who are more respectable are also adopting some components of integrated production technology. The agricultural technology was not generally accepted by the farmers completely in all respects. As such there always appears to be a gap between a recommended technology by a scientist and its modified form at the farmer's level.

A need of a day is to reduce the adoption gap between agriculture technology recommended by scientist and its acceptance by the farmers on their fields. The process of transfer of modern technology has not been allowed

uniformly in various parts of country. Chickpea crop also is not exception to this existing scenario. Therefore, it is necessary to ascertain this gap and puts in efforts to minimize it.

Hence, the present study was undertaken with the main objective to assess the existing adoption gap in chickpea production practices among the farmers and to identify the factors influencing adoption gap. The study also focused its attention on analyzing some problems of the farmers which have hindered in adopting new technology recommended for chickpea production.

### RESOURCES AND METHODS

For this study Parbhani district was selected purposively because it has maximum area under chickpea in Marathwada region. Two tahasils like Parbhani and Purna from Parbhani district were selected depending upon maximum production of chickpea. And five villages were selected randomly from each tahsil thus, total ten villages were selected. From each of village twelve numbers of respondents were selected. Thus 120 respondents were selected for present study and ex post facto research method was used. The data were collected with the help of structure schedule. Keeping on view the objectives of the study an

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interview schedule was prepared.

## OBSERVATIONS AND ANALYSIS

It is revealed from Table 1 that about 67.51 per cent of respondents were having medium farming experience (8.07 to 30.62 years of farm experience) followed by 18.33 per cent of the respondents were having high farming experience (above 30.63 years of farm experience) and 14.16 per cent of the respondents were having low farming experience (up to 8 years of farm experience). 55.01 per cent of respondents were educated up to secondary school level, followed by 18.33 per cent illiterate and 14.16 per cent were educated up to primary level, whereas 7.50 and 5.00 per cent of respondents were educated up to college and higher education level, respectively. 35.01 per cent of respondents were small farmers (1.1 to 2 ha) followed by 34.16 per cent of respondents were semi-medium farmers (2.1 to 4 ha), 17.51 per cent of the respondents were medium farmers (4.1 to 10 ha), 09.16 and 04.16 per cent of the respondents were marginal farmers (up to 1 ha) and big farmers (10.1 ha and above), respectively. Majority of the respondents (76.66%) were having annual income between Rs.29141/- to Rs.2,76000/-. However, 15.01 per cent of respondents were having high annual income *i.e.* 276000/- and above. While 08.33 per cent respondents were having low annual income category *i.e.* income Rs. 29140/- and below. 57.5 per cent of respondents were having medium level of social participation followed by low level of social participation (20.83%). while, 13.33 per cent of the respondents were having high level of social participation. It was observed that 65.01 per cent of respondents had medium risk orientation, whereas 23.33 per cent of respondents had high risk orientation followed by 11.66 per cent of the respondents were having low risk orientation. There were (55.00%) of respondents who had medium level of economic motivation; whereas 26.66 per cent of respondents had high level of economic motivation followed by 18.33 per cent of the respondents were having low level of economic motivation. Majority (74.16 %) of respondents had medium; whereas 21.67 per cent of respondents had low extension contact followed by 16.16 per cent of the respondents were having high level extension contact. Majority 63.33 per cent of respondents had possessed medium level of knowledge followed by 20.00 per cent had low and 16.67 per cent had high level of knowledge about chickpea production practices.

### Adoption gap in recommended package of practices:

Data presented in Table 2 indicate that the adoption gap in respect of preparatory tillage practices was 19.16 per cent. It means that a large majority of respondents were applying recommended tillage practices like ploughing, harrowing and cleaning of fields. 47.91% adoption gap was found in respect

**Table 1: Profile of chickpea growers**

Sr. No.	Category	Frequency	Percentage
1.	Farming experience		
	Low (up to 8.07 years)	20	14.16
	Medium (8.07 to 30.62 years)	62	67.51
	High (30.63 years and above)	38	18.33
2.	Education		
	Illiterate	16	18.33
	Primary (1 <sup>st</sup> Std. to 4 <sup>th</sup> Std)	18	14.16
	Secondary (5 <sup>th</sup> Std. to 10 <sup>th</sup> Std)	65	55.01
	Higher secondary (11 <sup>th</sup> and 12 <sup>th</sup> Std.)	12	05.00
	College education (above 12 <sup>th</sup> )	09	07.50
3.	Land holding		
	Marginal farmers (up to 1 ha)	10	09.16
	Small farmers (1.01 to 2ha)	43	35.01
	Semi-medium farmers (2.01 to 4 ha)	38	34.16
	Medium farmers (4.01 to 10 ha)	22	17.51
	Big farmers(10.01ha and above)	07	04.16
4.	Annual income		
	Low (below Rs. 29140)	14	08.33
	Medium (Rs.29141 to Rs.276000)	96	76.66
	High ( Rs.276000 and above)	20	15.01
5.	Social participation		
	Low (up to 2.30)	25	20.83
	Medium (2.31 to 6.8)	69	57.5
	High (6.9 and above)	16	13.33
6.	Risk orientation		
	Low (up to 27.73)	14	11.66
	Medium (27.74 to 39.57)	78	65.01
	High (39.58 and above)	28	23.33
7.	Economic Motivation		
	Low ( Up to 26.22 )	22	18.33
	Medium ( 26.23 to 39.44)	78	55.00
	High ( 39.45 and above)	28	26.66
8.	Sources of information		
	Low (Up to 11.11 )	23	19.16
	Medium (11.12 to 20.49)	88	73.34
	High (20.50 and above)	09	7.50
9.	Extension contact		
	Low(Up to2.53)	26	21.67
	Medium(2.54 to 10.39)	89	74.16
	High(10.40 and above)	05	16.16
10.	Knowledge level		
	Low ( up to16.85)	24	20.00
	Medium ( 16.85 to 25.95)	76	63.33
	High ( 25.96 and above)	20	16.67

**Table 2 : Adoption gap in recommended chickpea production practices**

Sr. No.	Particulars of practices	Adoption gap among respondents (%)
1.	Gap in preparatory tillage	19.16
2.	Gap in use of seeds and sowing techniques	47.91
3.	Gap in use of seed treatment	51.66
4.	Gap in nutrient management	43.75
5.	Gap in intercultural operations	25.83
6.	Gap in irrigation management practices	29.81
7.	Gap in plant protection measures	56.67
8.	Gap in integrated pest management	61.83
9.	Gap in harvesting practices	11.26
10.	Composite adoption gap	37.36

of use of improved varieties, sowing time, spacing and method of sowing. Adoption gap in respect of seed treatment have been 51.66 per cent. The extent of gap in use of chemical fertilizers in chickpea cultivation was found to be 43.75 per cent. The gap in intercultural operations was found to be 25.83 per cent. Adoption gap in irrigation management was 29.81 per cent. The gap in use of plant protection measures was about 56.67 per cent. 61.83 per cent of the adoption gap was found in respect of use of integrated pest management practices. It is comparatively higher than that of other selected management practices for chickpea cultivation. The adoption gap in harvesting practices was 11.26 per cent.

#### **Relationship between profile of chickpea growers and adoption gap:**

It is observed from Table 3 that out of ten independent variable farming experience had positive and significant relationship with adoption gap of chickpea growers regarding production technology at 0.05 per cent level of probability. Whereas education, land holding, annual income, risk orientation, economic motivation, social participation, sources of information, knowledge level, had negative and significant relationship with adoption gap at 0.01 per cent level of probability. Similar investigations were made on technological gap in sugarcane-wheat cropping system in upper Gangetic zones by Kadam *et al.* (2010).

**Table 3 : Relationship between profiles of chickpea growers with adoption gap**

Sr. No.	Category	Correlation coefficient 'r'
1.	Farming experience	0.344**
2.	Education	-0.356**
3.	Land holding	-0.232*
4.	Annual income	-0.309**
5.	Social participation	-0.337**
6.	Risk orientation	-0.407**
7.	Economic motivation	-0.385**
8.	Sources of Information	-0.252*
9.	Extension contact	-0.352**
10.	Knowledge level	-0.352**

\* and \*\* indicate significance of values at P=0.05 and 0.01, respectively

#### **Conclusion:**

It could be concluded that most of the respondents had medium level of farming experience. Most of the farmers were educated up to secondary school level. There were a large group of respondents belonged to medium annual income. The other variables like social participation, economic motivation, risk orientation and extension contact had observed from medium level category. Majority (63.33%) of the respondents had medium level of knowledge. It was found that more than half of the respondents fell under medium adoption gap category.

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