Constraints Analysis in Chickpea Cultivation in Disadvantage Region of Bundelkhand

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ABSTRACT

The study was conducted in the Baldevgarh Block of Tikamgarh District during 2013-14 to see constraints in chickpea cultivation. Four villages namely (Palera, Khodera, Hata & Lamera) were randomly selected from Baldevgarh block. Twenty farmers from each village (chickpea growing villages) were selected on random basis. Thus, total 80 respondents were selected from four villages. The data were obtained through pre-tested structured schedule with the help of interview. Pulses play an equally important role in rainfed and irrigated agriculture. Under rainfed condition U.P. Bundelkhand is well suited for pulses especially gram production due to the unique agroclimatic condition. It was observed that majority of chickpea growers 43.75% were from young age group (up to 35 years), 33.75% having primary level education. This paper also reflects the land holding, source of irrigation, social participation and type of family of the respondent affecting the chickpea cultivation. The study reported that the various constraints in chickpea cultivation which are these, constraints related to inputs-improved seeds and fertilizers are costly (70.34%), constraints related to market-low market price of chickpea (45.40%), constraints related to technical-lack of knowledge on location specific improved varieties of chickpea (57.00%) lastly constraints related to production-problem of insect, pest and disease (80.66%) its per centage are first in all Tables and chickpea crop get damaged due to unfavourable weather conditions (70.22%) these are most serious constraints in chickpea cultivation and other constraints scenario in adoption of chickpea cultivation which were major cause of poor gram productivity. In the study area, overall farmers don't have good knowledge and having poor knowledge of chickpea cultivation. This may be due to non-availability of technological information of chickpea production which resulted in poor adoption of chickpea cultivation technology. Hence, there are needs of capacity building of chickpea growers in this region through training programmes, farmers fair, demonstrations, soil testing, frontline demonstration, seed treatment, improved varieties and insect, pest and disease control etc. There is need of strong linkage of chickpea growers with KVKs, line department and SAU's, to improve the adoption of chickpea cultivation in the study area.

Key words: *Adoption, Constraints, Chickpea Cultivation.*

Pulses are important source of dietary protein and have unique property of maintaining and restoring soil fertility through biological nitrogen fixation as well as conserving, and improving physical properties of soil by virtue of their deep root system and leaf fall. Pulse crops leave behind reasonable quantity of nitrogen in the soil and add up to 30 kg N/ha. Chickpea or gram is consumed in various forms viz. dal, besan (flour) crushed or whole grain boiled or parched, green grain and foliage and vegetables its plant is a small herbaceous annual 25 to 50 cm tall, with erect much branched stem and the fruit is an inflated pod about 2 cm long and 1 cm broad. India grows chickpea on about 6.86 m ha producing 5.35 m tones of grains, which represents 32 per cent and 42 per cent of the national pulse acreage and production, respectively. Chickpea production has gone up from 3.65 to 5.35 m tones between 1950-51 and 1999-2000 registering a modest growth of 0.1 per cent annually. During the period, while the area has declined from 7.51 to 6.86 m/ha, the yield has steadily increased to 780 kg/

ha from 482 kg/ha. Notwithstanding its distribution throughout the country, four states, viz., Madhya Pradesh, Rajasthan, Uttar Pradesh and Maharashtra, together contribute 87 per cent of the production from 65 per cent area. Knowledge is recognized as one of the most important components of human behaviour, which gives impetus to adopt a technology. A variety of pulses is grown in India under a wide range of agro-climatic conditions. Presently, India is producing about 18.4 million ton of pulses from an area of about 24 million hectare with 786 kg/ha productivity and contributing about 21 per cent into global production. However, about 2–3 million ton of pulses are imported annually to meet the domestic consumption requirement. It is well known fact that pulses are inseparable ingredients of vegetarian diet and one of the cheapest sources of dietary protein for Indians. Bundelkhand region of Uttar Pradesh is also known as bowl of pulses. There is greater variation in productivity under different farming environment/situations. This region has two broad groups of soils namely; red soils (Rakar&Parwa) and Black soils (Marand Kabar) (*S.K. Chaturvedi, N. Nadarajan, SK Singh, 2010*). It has semi arid climate with average annual rainfall of 800 mm and temperature ranging between 3.0°C to 47.8°C. The cropping intensity is about 126% with maximum area under mono-cropping, sown during rabi season. Pulses are predominant crops in this tract with poor productivity. A proper understanding of improved practice is prerequisite for its adoption by chickpea growers at his farm. Knowledge in the present context was conceptualized as the amount of information about currently recommended practices for chickpea cultivation technology and constraints possessed by the farmers.

METHODOLOGY

The investigation was conducted in the Baldevgarh Block of Tikamgarh District during 2013-14 to see constraints in chickpea cultivation. There were four villages namely (Palera, Khodera, Hata & Lamera) randomly selected from Baldevgarh block which are selected for research in the study. After that from chickpea growing villages, twenty farmers from each village were selected on random basis. After the selection of the villages, a preliminary survey was conducted in the selected villages to know the total number of farm families falling in different land holding categories (marginal, small, medium and large) were selected for investigation through proportionate random sampling technique. Thus, a total sample of eighty (80) respondents were selected from four villages for the research in the study area which growing chickpea cultivation. The data were obtained through pre-tested structured schedule with the help of interview.

RESULTS AND DISCUSSION

The data presented in Table 1 indicated that among the various constraints pertaining to inputs 'improved seeds and fertilizers are costly have been perceived as the most serious constraint (severity 70.34%). It is also evident that 'inadequate credit facilities for purchasing necessary inputs' (severity 50.40%) have accorded most second serious constraint. Improved seeds are not available sufficiently (severity 47.34%) which rank third and good quality seeds and fertilizers are not available on time its ranked last (severity 46.00%) serious constraint by the chickpea grower, respectively. During the course of investigation it was observed that small and marginal farmers depend on locally available inputs, but these are sub-standards as well as not available on time which increase the constraints in adoption of chickpea in the study area. The results are confirmed from practice to practice of chickpea cultivation by the findings of *Sharma et al. (2005).*

The result presented in Table 1 shows that 'low market price of chickpea' has been found to be a most serious constraint (severity 45.40%), as it is ranked first by the farmers. Whereas 'lack of knowledge about proper place of marketing'(severity 40.00%) has ranked second serious constraint, 'Lack of cooperative marketing organization' (severity 30.33%) has ranked third serious constraints by the chickpea growers and 'Loading and unloading charges has to be borne by the growers is ranked last its severity 10.00 per cent, respectively. In any type of crops cultivation reasonable market price of chickpea and its storage are quite important factors. On the one hand, there is need for providing chickpea storage facilities to the farmers, marketing procession for reasonable market price of chickpea crops is very necessary on the other hand. It has to be rated that unawareness about marketing constituted a definite cause of undue frustration among the farmers. So, there is a need for providing marketing education to the farmer in the study area of Baldevgarh block of Tikamgarh district. Almost similar findings were obtained by *Mishra and Rahul (2008).*

Table 1: Constraints related to inputs (N = 80)

Input constraints	Severity	Rank
Improved seeds and fertilizers are costly	70.34%	I
Inadequate credit facilities for purchasing necessary inputs	50.40%	II
Improved seeds not available sufficiently	47.34%	III
Good quality seeds and fertilizers are not available on time	46.00%	IV
Marketing constraints		
Low market price of chickpea	45.40%	I
Lack of knowledge about proper place of marketing	40.00%	II
Lack of cooperative marketing organization	30.33%	III
Loading and loading charges has to be bear by the growers	10.00%	IV
Technical constraints		
Lack of knowledge on location specific improved varieties of chickpea	57.00%	I
Lack of knowledge about seed treatment	53.33%	II
Lack of demonstration and training	45.40%	III
Lack of knowledge about insect, pest and disease control	44.44%	IV
Lack of knowledge regarding improved agronomical practices of chickpea growers	40.00%	V
Production constraints		
Problem of insect, pest and disease	80.66%	I
Chickpea crops get damaged due to unfavourable weather conditions	70.22%	II
Incidence of weeds menace	61.36%	III
Re-sowing due to bad weather	60.66%	IV
Shortage of irrigation water' due to erratic power supply	40.42%	V

The data in Table 1 revealed that 'lack of knowledge on location specific improved varieties of chickpea (severity 57.00%) is considered to be most serious constraints, as it is ranked first by the farmers. 'Lack of knowledge about seed treatment' (severity 53.33%) has ranked as second serious constraints, whereas 'lack of demonstration and training' (severity 45.40%),' lack of knowledge about insect, pest and disease control' (severity 44.44%) have been ranked third and fourth constraints. In the study area 'Lack of knowledge regarding improved agronomical practices of chickpea growers' has ranked last its severity 40.00%, respectively. Almost similar findings were obtained by *Awasthi and D.K. (2004)*.

The data in Table 1 indicated that 'Problem of insect, pest and disease' (severity 80.66%) has been viewed as most serious constraints and it was ranked first by the chickpea growers. 'Chickpea crops get damaged due to unfavourable weather conditions' has been the second serious constraints (severity 70.22%) followed by 're-sowing due to bad weather' has been the fourth serious constraint (severity 60.66%) and 'shortage of irrigation water' due to erratic power supply (severity 40.42 %), has been ranked fifth constraints, respectively. There are above all major constraints in adoption by chickpea growers in the study area Baldevgarh block of Tikamgarh district. During the survey researcher observed wilt and cutworm of chickpea and problem of weeds in the locality which reduces the yield. chickpea crops get damaged and re-sowing due to bad weather conditions is concerned it may have to be done on occasions as a matter of need arising out of circumstances beyond one's control. However, remote sensing data may be of some value in overcoming the problem of re-sowing. Obviously, the meteorologists need to come out with suiTable recommendation for sowing time in the study area. The results are confirmed from practice to practice of chickpea cultivation by the findings of *Shivran et al. (2011*).

CONCLUSION

The findings of the study clearly revealed that improved seeds and fertilizers are costly, inadequate credit facilities for purchasing necessary inputs, improved seeds are not available sufficiently, Low market price of chickpea, Lack of knowledge about proper place of marketing, Lack of cooperative marketing organization, Lack of knowledge on location specific improved varieties of chickpea, Lack of knowledge about seed treatment, Lack of demonstration and training, Problem of insect, pest and disease, chickpea crops get damaged due to unfavourable weather conditions were major constraints as perceived by the respondents in adoption of chickpea cultivation in Baldevgarh Block of Tikamgarh District. The findings in the study show that Improved seeds and fertilizers are costly, Low market price of chickpea, Lack of knowledge on location specific improved varieties of chickpea and Problem of insect, pest and disease are quite important constraints factors and others constraints given in each Tables by which minimized chickpea production and these constraints are barriers in adoption

of chickpea cultivation in the study area. On the one hand, there is need for providing knowledge about scientific chickpea cultivation to the farmers, conducting demonstration and training etc. is very necessary on the fields. It has been noted that knowledge about insecticides and disease control and lack of knowledge about place of marketing have also been experienced by the chickpea growers. If farmers do not uses recommended technology than must be conduct their needs bases training and extension personnel with the assistance of subject matter specialist should conduct the exhibition, demonstration, training, there must be provided facilities and front line demonstration by scientist at farmers' fields.

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