

Research Article

Constraints in adoption of improved cultivation practices of maize and wheat crops at KVK operational area Banswara and Dungarpur districts of South Rajasthan

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SUMMARY : The Krishi Vigyan Kendra at Borwat in the Banswara district and KVK at Faloj in Dungarpur district of southern Rajasthan are providing skill-oriented trainings to the farmers, farmwomen and rural youth since 1983 and 1992, respectively in their operational areas. Therefore, the present study was conducted with the objective to study the constraints in adoption of improved cultivation practices of maize and wheat crops. Eight villages of four Panchayat Samities of two district of Southern Rajasthan (Two Panchayat Samities from each district) were selected purposively for the study purpose. Sample for the present study was 120 beneficiaries and 120 non-beneficiaries. So the total sample size was comprised of 240 farmers. The findings revealed that constraint perceived as most important by both beneficiaries and non-beneficiaries was related to seed treatment and ranked it as first. It may be because of required technical know how about the selection appropriate chemical and its quantity and its procedure. The beneficiary's respondents expressed second important constraint to the marketing of the harvested product and its market price as they are not getting appropriate market and bound to sell their produce at price decided by local traders. This was followed by the plant protection measures and use of culture (Bio- fertilizers) and ranked as third and fourth in order of importance as perceived by the beneficiary respondents. Similarly in case of non-beneficiary respondents, constraints related to plant protection measures was perceived as second important constraint and ranked it on second followed by chemical weed control, improved seed, soil treatment and marketing related constraints ranked as third, fourth, fifth and sixth in order of importance as perceived by non-beneficiary respondents about the improved cultivation practices of maize and wheat crops.

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BACKGROUND AND OBJECTIVES

Agriculture being dominant sector of India is backbone of its economy and would continue to be the most predominant sector in future also. Agriculture contributes nearly 30 per cent of net domestic product (NDP) and employs 70 per cent of the people and account for a sizeable share in the total value of country's export. The agriculture extension system in India faces a tough challenge in meeting the agricultural production and productivity requirements of the farmers. The basic problem of this is not so much of poverty of natural resources but under

development of human resource. Now a day when research in agriculture is moving fast and practically, every month new practices of modern cultivation are coming to light, it is essential that the farmers are kept abreast of the dynamic agriculture by an equally dynamic system of extension. It is commonly realized that very little attention has so far been paid towards non-formal education in rural areas especially in tribal areas. Due to this, transfer of newly generated proven technology is taking place at a slow pace. Considering these facts, ICAR has already been planned to increase Krishi Vigyan Kendra in the country. Since Krishi Vigyan Kendra (KVKs) are

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engaged in promoting science and technology in agriculture in this area for more than decade, it is important to see its impact over the area. Maize being the major crop of this area, knowledge level regarding improved cultivation practices of maize production technology will give sufficient evidence of success achieved by KVKs.

RESOURCES AND METHODS

The study has been conducted in the tribal dominated Banswara and Dungarpur districts of South Rajasthan. Out of the 13 Panchayat Samities (8 Panchayat Samities of Banswara and 5 Panchayat Samities), two Panchayat Samities were selected from each district namely Bagidora and Ghatol from Banswara district and Dungarpur and Sagwara Panchayat Samities from Dungarpur district were selected on the basis of maximum training programmes conducted by the KVK. Two villages from each Panchayat Samitee were selected on the basis of the maximum no. of training programmes organized by the KVK and farmers benefited. Thus in all eight villages were selected for this study. From the list of beneficiary provided by the KVK, 15 beneficiaries and 15 non beneficiaries were selected from each village. Thus in all 30 respondents from each villages were selected randomly selected. So the sample for the present study from eight

villages was 120 beneficiaries and 120 non-beneficiaries. So the total sample size was comprised of 240 farmers. The personal interview technique was used to collect the data for the present investigation. The tool used for data collection was a structured schedule. Constraints have been broadly categorized into interview constraints. Mean per cent score and rank correlation were employed to find out the constraints according to priority as perceived by the respondents.

OBSERVATIONS AND ANALYSIS

Result given in Table 1 indicates that the majority of the beneficiary farmers were found to be in middle age group, where as 27.5 per cent farmers were in the young age group. Only 15.83 per cent beneficiary respondents were found in the old age group. Similarly in non-beneficiary respondents, 69 respondents (57.5 %) belonged to middle age group followed by young age group and old age group 26.5 per cent and 16.67 per cent, respectively. Hence, it may be concluded that majority of the beneficiary and non-beneficiary respondents were in the middle age group followed by young and old age group. It was found that 62.5 per cent beneficiary and 70.83 non-beneficiary respondents were illiterate whereas 27.5 per cent beneficiary and 23.33 per cent non-

Table 1 : Distribution of respondents on the basis of their personal characteristic

Sr. No.	Personal characteristics	Beneficiaries		Non beneficiaries		Combined respondents	
		Frequency	%	Frequency	%	Frequency	%
1.	Age:						
	Young	33	27.5	30	25	63	26.58
	Middle	68	56.6	69	57.5	137	57.08
	Old	19	15.83	21	17.5	40	16.67
2.	Education:						
	Illiterate	75	62.5	85	70.83	160	66.67
	Literate	33	27.5	28	23.33	61	25.42
	Educated	12	10.0	7	5.80	19	7.92
3.	Occupation:						
	Agriculture	95	79.16	102	85	189	82.58
	Other	25	20.83	18	15	43	17.92
4.	Social participation:						
	Active	47	39.16	24	20	71	29.58
	Passive	73	60.83	96	80	169	70.42
5.	Size of land holding:						
	Big farmer	48	40.0	32	26.67	80	33.33
	Small farmer	65	54.16	68	56.6	133	55.42
	Marginal farmer	7	5.83	20	16.67	27	11.25
6.	Type of family:						
	Nuclear family	43	35.83	47	39.16	90	37
	Joint family	77	64.16	73	60.83	150	62.5

beneficiary respondents were found to be literate. Only 10 per cent beneficiary respondents and 5.83 per cent non-beneficiary respondents were found to be educated. 79.16 per cent beneficiary respondents were engaged in agriculture where as in case of non-beneficiary respondents, it was 85 per cent. Only 20.83 per cent beneficiary and 15 per cent non-beneficiary respondents were engaged in agriculture and other business. Table also reveals that majority of combined respondents were found agriculture as an occupation. Observation of the Table 1 reveals that 60.83 per cent of the beneficiary and 80 per cent non-beneficiary respondents were found to be as passive participants. Whereas only 39.16 per cent beneficiary and 20 per cent non-beneficiary respondents were found as active participants. On the basis of size of land holding respondents were categorized into three categories viz., big, small and marginal farmers. The data presented in the Table 1 clearly show that majority of the beneficiary farmer (54.16 %) were small farmers followed by the big farmers (40%). Only 5.83 per cent farmers were found in the category of marginal farmers. Majority of beneficiary (64.16%) and non-beneficiary respondents (60.83 %) had joint families. The data presented in table also reveal that 35.33 per cent beneficiary and 39.16 per cent non-beneficiary respondents had nuclear family. In case of combined respondents, majority of the respondents had (62.5%) joint family followed by nuclear family (37.5 %).

Constraints faced by beneficiaries in the adoption of improved agricultural practices of maize and wheat production technology:

A critical examination of Table 2 reveals that beneficiaries of maize and wheat growers were facing much

problems regarding seed treatment like as non-availability of implement or equipment for seed treatment in their locality, lack of complete knowledge about seed treatment method, lack of technical knowledge about seed treatment, unaware about utility of seed treatment. Therefore, they had ranked this constraint on first position. Secondly they had identified marketing problem as they feel that no marketing facility in rural areas to sale their products at appropriate cost, lack of proper infrastructure of the Village Cooperative Society, local mediator and dealer give lower price of the peasants products making them unaware to sale the produce at the time of harvesting gave the lower price, lack of proper storage facilities and constraints related to plant protection measures like as lack of skill, lack of knowledge, plant protection chemicals are more costly, harmful on human being and animal. 1st required plant protection equipments and harmful residual effect on crop, therefore, they ranked this problem on third position. The table further depicts that beneficiaries were having adequate knowledge about sudden occurring natural calamities, post harvest technology, irrigation management and soil treatment, therefore, they were feeling less problem in performing there practices.

Constraints faced by non-beneficiaries in the adoption of improved agricultural practices of maize and wheat production technology :

Table 2 reveals that non-beneficiaries maize and wheat growers were facing much problems related to seed treatment. The non-beneficiaries feel that they were unaware about utility of seed treatment non-availability of implement or equipment for seed treatment in their locality, lack of complete knowledge about seed treatment. They ranked this

Table 2 : Distribution of respondents according to constraints faced by beneficiaries and non-beneficiaries in the adoption of improved agricultural practices of maize and wheat production technology

Sr. No.	Particulars	Beneficiary respondents				Non-beneficiaries respondents			
		Maize	Wheat	Over all	Rank	Maize	Wheat	Over all	Rank
		MPS	MPS	MPS		MPS	MPS	MPS	
1.	Improved seed	27.73	25.745	26.737	V	51.833	54.435	53.136	IV
2.	Soil treatment	18.708	18.95	18.829	IX	50.613	51.03	50.82	V
3.	Seed treatment	35.455	32.577	34.016	I	65.69	64.903	65.296	I
4.	Seed rate and sowing time	21.695	21.5575	21.6262	VIII	36.555	39.07	37.815	X
5.	Use of culture <i>Azotobactor</i>	25.27	28.745	27.007	IV	45.413	46.103	45.758	VII
6.	Balanced application of NPK	17.828	17.689	17.758	X	44.13	44.63	44.38	VIII
7.	Irrigation management	21.73	30.342	26.036	VI	40.75	42.2775	41.51	IX
8.	Chemical wheat control	23.859	27.719	25.789	VII	53.317	54.64	53.978	III
9.	Plant protection measure	31.0175	32.649	31.912	III	59.105	60.325	59.715	II
10.	Natural calamities	17.732	5.153	11.44	XII	22.887	8.919	15.903	XII
11.	Post harvest technology	13.46	17.35	15.40	XI	31.06	31.385	31.22	XI
12.	Marketing constraints	32.296	32.055	32.195	II	45.73	46.955	46.342	VI

r = 0.727** , * Indicate significance of value at P=0.01

problem in first position, secondly they had identified problem related to plant protection measures. Scarcity of money, plant protection chemicals are more costly, lack of skill ness, lack of knowledge and harmful residual effect on crop which are reducing the production, therefore, they ranked this problem in second position. Chemical weed control was also major constraints faced, as they feel chemical weed control are costly, hand hoeing and weeding is far better than the chemical weed control, method is more risky, chemical weed control methods are more problematic therefore, they had ranked this constraint on third position. The table further clears that non-beneficiaries were having knowledge upto some extent about natural calamities occurrence, post harvest technology, seed rate and sowing time constraints. The non-beneficiary respondents feel more constraints in adoption in wheat as compare to maize production technology. An investigation on factors responsible for non-adoption of the farm practices of wheat was conducted by Thakur *et al.*(1993) which is almost similar to the present work.

Conclusion :

Result indicates that the majority of the beneficiary and non-beneficiary's farmers were found to be in middle age group followed by young age and old age group and illiterate. Majority of the beneficiary and non-beneficiary respondents, were engaged in agriculture. Table also reveals that majority of combined respondents were found agriculture as an occupation. Majority of beneficiary (60.83 %) and 80 per cent non-beneficiary respondents were found to be as passive participants and belonged to small farmer category. Majority of beneficiary (64.16%) and non-beneficiary respondents (60.83 %) had joint families.

The findings revealed that constraint perceived as most important by both beneficiaries and non-beneficiaries was related to seed treatment and ranked it as first. It may be because of required technical know how about the selection appropriate chemical and its quantity and its procedure. The beneficiary's respondents expressed second important

constraint to the marketing of the harvested product and its market price, as they were not getting appropriate market and bound to sell their produce at price decided by local traders. This was followed by the plant protection measures and use of culture (Bio- fertilizers) and ranked as third and fourth in order of importance as perceived by the beneficiary respondents. Similarly in case of non-beneficiary respondents, constraints related to plant protection measures was perceived as second important constraint and ranked it on second followed by chemical weed control, improved seed, soil treatment and marketing related constraints ranked as third, fourth, fifth and sixth in order of importance as perceived by non-beneficiary respondents about the improved cultivation practices of maize and wheat crops. Therefore, it can be concluded that more training programmes should be conducted on seed treatment, appropriate marketing of harvest agricultural produce, use of chemical weed control and plant protection measures, soil treatment, improved seed etc. should be covered with special emphasis to increase knowledge and impart skills among the wheat and maize growing respondents.

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