

SEEDS OF STRUGGLE: UNRAVELING CHALLENGES IN MUSTARD CULTIVATION AMONG KVK BENEFICIARY AND NON- BENEFICIARY FARMERS

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ABSTRACT

Krishi Vigyan Kendra (KVK) is a vital agricultural institution in India established to bridge the gap between research and farming communities. This abstract provides an overview of KVKs, highlighting their roles, functions, and impact on agricultural development. There are about 20 KVKs established in Jammu and Kashmir, out of which nine KVKs are under the Sher-e-Kashmir University of Agricultural Sciences and Technology Jammu, Chatha. The primary objective of KVKs is to transfer the latest agricultural technologies and innovations to farmers' fields and promote sustainable farming practices. In this line the present study was conducted during 2020-21 to study the constraints faced by the beneficiaries and non-beneficiaries of KVK Samba. Primary data was collected through semi-structured questionnaire. The sample of the study was selected through random sampling technique to obtain a total sample size of 120 mustard growers (60 beneficiary farmers and 60 non-beneficiary farmers). The result shows that all the beneficiaries and non-beneficiaries expressed high cost of chemicals as their major problem. Further, there are some other various constraints which was expressed by respondents such as timely monitoring is not done by experts by 27 and 76 per cent of beneficiaries and non-beneficiaries, respectively. Similarly, beneficiaries (40%) and non-beneficiaries (56%) expressed package and practices are given in theoretical classes only. Likewise, beneficiaries (30%) and non-beneficiaries (80%) expressed information given to the farmers is not more exhaustive etc.

Keywords : KVK, frontline demonstrations, impact, innovations, agricultural technologies

INTRODUCTION

Agriculture has always been a cornerstone of the Indian economy, occupying a pride of place as the mainstay of the nation's people. Its pivotal role is underscored by its significance as a primary driver of livelihoods and economic growth. In this context, the adoption of innovative agricultural practices becomes imperative to enhance productivity and ensure food security for a rapidly growing population (Ahuja and Jyoti, 2014). One potent strategy for motivating farmers to embrace these new practices is the concept of front-line demonstrations (FLD) (Rai *et al.*, 2010) . FLD involves a systematic and long-term educational approach, conducted by agricultural scientists, where farmers' fields become living laboratories to showcase the value and benefits of newly released crop production and protection technologies, as well as improved management practices (Yeragorla *et al.*, 2023). By comparing the outcomes of these recommended practices with traditional methods, FLD serves as a catalyst for the adoption of innovation and the optimization of crop yields (Deshmukh *et al.*, 2012) and (Shah *et al.*, 2019). This research specifically

focuses on FLD as an effective extension intervention within the realm of oilseed cultivation, with a primary emphasis on mustard crops in the Samba district of India. Oilseed crops occupy a pivotal place in the Indian agricultural landscape, following closely behind food grains in terms of economic importance. Among these oilseed crops, rapeseed-mustard holds particular significance. Globally, rapeseed-mustard ranks as the third most important oilseed crop, trailing only behind soybeans. In the Indian context, the nation stands as a vital contributor to the global rapeseed-mustard production, cultivating it across 7.92 million hectares and yielding 9.34 million metric tons, with an average productivity of 1499 kg/ha (Anonymous, 2019). While the production of new agricultural technologies has seen substantial progress, the challenge today lies in their diffusion and widespread adoption among the farming community. Over the past five years, Krishi Vigyan Kendra (KVK) of Samba affiliated with SKUAST-Jammu, Agricultural University, have diligently organized front-line demonstrations focusing on mustard crops in the Samba district. This study seeks to measure the

impact of these FLDs on mustard growers in the region and also the various constraints faced by them in cultivation of mustard crop.

OBJECTIVE

To study the constraints faced by the KVK beneficiaries and non-beneficiaries in the Samba district of the Jammu region.

METHODOLOGY

Ex-post facto design was applied to conduct the study and multi stage sampling plan was followed for the selection of ultimate farmers. Samba district was selected purposively because KVK, Samba has laid maximum number of Front

Line Demonstrations (FLDs) under its Cluster Frontline Demonstration Programme. A list of 166 mustard growing beneficiaries was collected from KVK Samba. Out of the available list, 60 number of mustard growing beneficiary were selected by using random sampling technique. Equal number of non-beneficiary mustard growing farmers were also selected from the representative/adjoining villages. By this way total sample size comprised of 60 beneficiary and 60 non-beneficiary mustard growing farmers. Data was collected at individual farmer level, through open ended questionnaire particularly on economics, cost of cultivation of the mustard crop and income of the farmers along with data on adoption practices, socio economics and constraints faced in mustard crop production. Data was tabulated and analyzed through SPSS software.

RESULTS AND DISCUSSION

Table 1: Distribution of respondents on the basis of constraints faced by them in mustard cultivation (n=120)

Sr. No.	Parameter	Beneficiary (n=60)	Non-Beneficiary (n=60)	Difference	Statistics
1	Timely monitoring is not done by experts	16(27)	46(76)	-49	$z=6.932^{**}$ $p=0.001$
2	Package and practices are given in theoretical classes only	24(40)	34(56)	-16	$z=2.264^{*}$ $p=0.023$
3	Information given to the farmers is not more exhaustive	18(30)	48(80)	-50	$z=7.106^{**}$ $p=0.001$
4	Low cost technology is not introduced	31(52)	60(100)	-48	$z=4.117^{**}$ $p=0.001$
5	Lack of knowledge about soil fertility	18(30)	31(52)	-22	$z=3.162^{**}$ $p=0.015$
6	High cost of HYV's seeds	60(100)	59(98)	2	$z=1.421$ $p=0.155$
7	Lack of knowledge about proper diagnosis of insects and diseases	16(27)	39(65)	-38	$z=5.391^{**}$ $p=0.001$
8	Lack of knowledge about proper spacing/thinning/weeding operations	15(25)	42(70)	-45	$z=6.371^{**}$ $p=0.001$
9	Credit is not available easily and timely	49(82)	58(96)	-14	$z=3.163^{**}$ $p=0.015$
10	Non availability of fertilizers at the peak season	59(98)	60(100)	-2	$z=1.421$ $p=0.155$
11	High cost of chemicals	60(100)	60(100)	0	----
12	Lack of irrigation facilities	39(65)	42(70)	-5	$z=0.754$ $p=0.453$
13	Lack of transport facilities	05(8)	08(13)	-5	$z=1.153$ $p=0.250$
14	Any other (wild animal attack on fields)	44(73)	42(70)	3	$z=0.469$ $p=0.638$
15	Timely seed and fertilizer not available	07(12)	08(13)	-1	$z=0.213$ $p=0.833$
16	High labour cost and no machine on subsidiary	01(2)	0	2	----

F=Frequency P=Percen

Table 1. depicts different types of constraints faced by respondents regarding mustard cultivation. It was revealed that all the beneficiaries and non-beneficiaries expressed high cost of chemicals as their major problem. Further, there are some other various constraints which was expressed by respondents such as timely monitoring is not done by experts which is expressed by 27 and 76 per cent of beneficiaries and non-beneficiaries, respectively and the value between beneficiaries and non-beneficiaries regarding this type of problem differ significantly at 1 per cent level of significance with difference value of -49. Similarly, beneficiaries (40%) and non-beneficiaries (56%) expressed package and practices are given in theoretical classes only and the value between beneficiaries and non-beneficiaries regarding this type of problem differ significantly at 5 per cent level of significance with difference value of -16. Likewise, beneficiaries (30%) and non-beneficiaries (80%) expressed information given to the farmers is not more exhaustive and the value between beneficiaries and non-beneficiaries regarding this type of problem differ significantly at 1 per cent level of significance with difference value of -50. Further, beneficiaries (52%) and non-beneficiaries (100%) expressed low cost technology is not introduced as their problem and the value between beneficiaries and non-beneficiaries regarding this type of problem differ significantly at 1 per cent level of significance with difference value of -48. The table further revealed that beneficiaries (30%) and non-beneficiaries (52%) expressed lack of knowledge about soil fertility as problem in study area and the value between beneficiaries and non-beneficiaries regarding this type of problem differ significantly at 1 per cent level of significance with difference value of -22. Further, beneficiaries (100%) and non-beneficiaries (98%) expressed high cost of HYV's seed and the value between beneficiaries and non-beneficiaries regarding this type of problem not differ significantly. Lack of knowledge about proper diagnosis of insects and diseases was expressed by 27 and 65 per cent of beneficiaries and non-beneficiaries, respectively and the value between beneficiaries and non-beneficiaries regarding this type of problem differ significantly at 1 per cent level of significance with difference value of -38. Lack of knowledge about proper spacing/thinning/weeding operations expressed by 25 and 70 per cent of beneficiaries and non-beneficiaries, respectively and the value between beneficiaries and non-beneficiaries regarding this type of problem differ significantly at 1 per cent level of significance with difference value of -45. It was also revealed in the table that constraints like credit is not available easily and timely was expressed by 82 and 96 per cent of beneficiaries and non-beneficiaries, respectively and the value between beneficiaries and non-beneficiaries regarding this type of problem differ significantly at 1 per cent level of significance with difference value of -14. Non availability of fertilizers at the peak season was expressed by

98 and 100 per cent of beneficiaries and non-beneficiaries, respectively and the value between beneficiaries and non-beneficiaries regarding this type of problem not differ significantly. Similarly, 65 and 70 per cent of beneficiaries and non-beneficiaries, respectively expressed lack of irrigation facilities as their problem and the value between beneficiaries and non-beneficiaries regarding this type of problem not differ significantly. Further, 8 and 13 per cent of beneficiaries and non-beneficiaries, respectively expressed lack of transport facilities as their problem and the value between beneficiaries and non-beneficiaries regarding this type of problem not differ significantly. Seed and fertilizers was not available at time was expressed by 73 and 70 per cent of beneficiaries and non-beneficiaries, respectively and the values between beneficiaries and non-beneficiaries regarding this type of problem was not significant. Only beneficiaries (2%) expressed high labour cost and no machine on subsidy as their main problems. Some different type of problem was also expressed by respondents as 73 and 70 per cent of beneficiaries and non-beneficiaries expressed wild animal attack on their fields as a major problem and the

values between beneficiaries and non-beneficiaries regarding this type of problem was not significant. The results are in line with the findings of study Chaudhary et al. (2024) and Asiwal et al. (2023).

CONCLUSION

This study on Impact Assessment of the KVK Cluster Frontline Demonstrations on Mustard Crop was conducted to assess the constraints faced by the mustard growers in the study area. The main issue reported by the respondents both beneficiary and non-beneficiary were high cost of chemicals followed by high cost of high yielding variety seeds etc. Moreover, there was a significant difference between the problems faced by beneficiary and non-beneficiary farmers for the problems such as:- Timely monitoring is not done by experts, information given to the farmers is not more exhaustive, low cost technology is not introduced, lack of knowledge about soil fertility, lack of knowledge about proper diagnosis of insects and diseases, lack of knowledge about proper spacing/thinning/weeding operations and credit is not available easily and timely. This high difference seen among beneficiary and non-beneficiary farmers were due to the efforts made by KVK, Samba, for their beneficiary farmers by giving them timely trainings on oilseed crops and also due to the timely demonstration of the crop. So, that they can adopt the new technologies related to oilseeds and also boost their knowledge by frequent valuable suggestions given by the experts.

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CONFLICT OF INTEREST

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