IMPACT OF CLUSTER APPROACH THROUGH KVK'S

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Abstract : Impact study of cluster approach through KVK on soybean production was conducted in Ujjain block of Uijain district of Madhya Pradesh, where the TOT programmes were operational in 2009. The results ofthe study revealed that knowledge level of eight practices of soybean productton namely; seed treatment, land preparation, seed inoculation, planting geometry, weeding, plant protection, recommended dose offertilizer and harvesting were improved by 100 per cent through the training programme of the centre whereas four practices namely,' selection ofvariety, use ofmicro-nutrient (S&N), ridge & furrow system of solving and marketing showed signijkant improvement .The study further revealed that soybean production namely" summer ploughing, germination test, seed treatment, weeding(post emergence and hand weeding), application of RDF, Use of sulphur and Zn, market survey done before soyabean growing and use ofshort duration variety were 100 per cent adopted. . On the other hand, although remaining four practices namely; method of sowing, soil testing, weeding(preemergence), scheduling of insecticides could not achieved upto 100 per cent The impact of trainings was highly significant in terms ofincreased yield. This means that training and demonstrations on different cultivation practices viz; selection of variety. seed treatment, seed inoculation, plant geometry, weeding, use ofmicro-nutrients, scheduling of insecticides and marketing has helped the farmers to improve the additional yield at the rate of8.50 qtlha. The constraints as perceived by the respondents that affected the adoption of improved soybean technology in the farmer's field were identified. Unavailability of quality seed was the major problem of adopting soybean technology followed by problem of labours availability, imbalanced use of fertilizers and indiscrimination use ofinsecticides. It was concluded that KVK played main role for increase the adoption ofappropriate suitable technologies for soybean production.

Keywords : Soyabean, Production, Germination, Seed treatment

INTRODUCTION

According to Autio and Laamanen 1995, technology transfer is a goal-oriented process that is likely to enhance the technological capabilities of an organization and
increasing the performance of a particular organization. Madanmohan *et al.* 2004, large-scale state sponsored technology transfer projects aims at developing indigenous technological capabilities and meeting the broader socio-economic objectives. Sander 1989, is one of the few theorists who have written about alternative concepts of technology transfer with specified concepts? Who refers technology transfer as configuration of observing object, in which technology must rely on a determined subject but specifiable set of processes and products. In the field of agriculture, the main *moto* is higher production and production up to mark through adoption of new and appropriate technologies. So many transfer of technology programmes are running for upliftment of rural community by KVK's.

In order to interect with the farmers cluster approach has been used because it strengthen overall response capacity as well as the effectiveness of the response. Hellin *et aI,* 2008 have rightly observed that farmer participation in agricultural research can improve the efficiency and impact of the research .Cluster approach is a right way to increase the farmers participation for rapid dissemination of technology. Impact of cluster approach is accessed in terms of knowledge gained and practices adopted by the farmers.

Objectives: Krishi Vigyan Kendra is a district level nodal vocational institute to rectify or approve the recent agricultural technology based on site specific demands or resources availability. Hence, Krishi Vigyan Kendra (KVK) knows about actual situations of agriculture and farmer's needs at district level. The KVK of Ujjain district of Madhya Pradesh worked \vith the following specific objectives:

1. To find out the extent of knowledge and adoption of soybean production tec1mology by the famers.
2. To list out constraints and suggestions for improving future training programme.

METHODOLOGY

Ujjain block of Ujjain district of Madhya Pradesh, where the programme operated was purposively selected as the locale of the study. The soybean is main crop of the district. Among all the blocks of Ujj ain district, Soybean training programme was conducted in Ujjain block for two years with maximum beneficiaries mainly consisting of small, marginal and OBC farmers. Out of the 132 villages in Ujjain block, cluster of 20 villages was selected for conducting KVK's activities.All 20 villages were adjoined together and interlinked socially. Initially the area under study was remote but recently it has been linked with Ujjain city district headquarter by Prime Minister Road scheme. Three villages which had maximum beneficiaries were selected for the study. Forty respondents from each village were randomly selected. The total sample size consist of 120 respondents. Data was collected with the help of interview schedule. Knowledge levels of the farmers:

The interest and knowledge are the two chief criterion for understanding the technologies related to any field. Twelve practices were selected to find out the extent of knowledge and adoption by consulting the experts and scientists of KVK. Extent of adoption: The data regarding adoption of the improved practices of soybean crop was recorded under two heads, namely practices adopted before and after trainings. Impact of trainings was studied under the sub components viz; Increase area, cost of cultivation, confidential levels, yield and market survey. Impact of training in terms of yield: The data regarding soybean yield of the individual beneficiaries was obtained with help of an interview schedule. The t-test was used to know a significant mean difference of yield before and after soybean training programme.

Evaluation, findings and Discussion: Knowledge gain: The distribution of the farmers according to their knowledge on twelve practices regarding soybean production technologies were given in Table l.1t exhibited that the knowledge level of eight practices of soybean production namely; seed treatment, land preparation, seed inoculation, planting geometry, weeding, plant protection, recommended dose of fertilizer and harvesting were improved by 50 per cent through the training programme of the centre. It seems that these practices can be rectified only through trainings towards the farmers. On the other hand, although remaining four practices namely; selection of variety, use of micronutrient (S&N). ridge & furrow system of sowing and marketing showed significant improvement (adoption) but could not achieved 50 per cent. It showed that these practices require either more trainings or demonstrations for further improvement.

Adoption level:The distribution of the farmers on elevan practices adopted regarding soybean production technologies were given in Table 2.1t exhibited that eight practices of soybean production namely; summer ploughing, germination test, seed treatment, weeding(post emergence and hand weeding), application of RDF, Use of sulphur and Zn, market survey done before soyabean growing and use of short duration variety were adopted by 50 per cent after attending the training programme. On the other hand, although remaining four practices namely; method of sowing, soil testing, weeding(preemergence), scheduling of insecticides could not achieved upto 50 per cent.

Table 1: Distribution of farmers according to their knowledge on soybean production technology before and after training. N=120

S. No.	Production technologies	Before training	After training	Difference
1	Land Preparation	52(43.33%)	60(50%)	08
2	Selection of variety	24(20%)	51(43%)	27
3	Seed treatment	38(32%)	60(50%)	22
4	Seed inoculation	18(15%)	60(50%)	42
5	Plant geometry	23(19%)	58(48%)	35
6	Weeding	38(32%)	60(50%)	22
7	Recommended dose of fertilizers	40(33.33%)	60(50%)	20
8	Use of micro-nutrient (S & N)	12(10%)	50(41.67%)	38
9	Sowing on ridge on furrow system	00(00%)	35(29.17%)	35
10	Plant protection	38(32%)	60(50%)	15
11	Harvesting	45(37.50%)	60(50%)	15
12	Marketing	10(8.33%)	35(8.33%)	15

Table 2. Distribution of farmers according to adoption of soybean production technologies. N=120

Sl. No	Production technologies	Before (Frequency %)	After (Frequency %)
1	Summer ploughing	32(26.67%)	60(50%)
2	Germination test	35(29.17%)	60(50%)
3	Seed treatment	42(35%)	60(50%)
4	Method of sowing (Ridge & furrow)	00(00%)	25(20.83%)
5	Soil testing	10(08.33%)	55(45.83%)
6	Weeding 1. Pre-emergence 2. Post-emergence 3. Hand weeding	 13(10.83%) 16(13.33%) **52(43.11** %)	 30(25%) 60(50%) 60(50%))

7	Application of RDF	23(19.17%)	60(50%)
8	Use of Sulhpur % Zn	20(16.67%)	60(50%)
9	Scheduling of Insecticides	12(10%)	50(41.67%)
10	Market survey done before soyabean growing	35(29.17%)	60(50%)
11	Use of short duration variety	03(2.50%)	60(50%)

Impact of the training programme

The impacts through the training programmes was studied based on various components depicted in table 3. Table showed that maximum progress achieved in the seed treatment component (38.33%) followed by weed control measures adopted by the beneficiaries (33.33%) and application of fertilizers (31.67%) indicated that training programme was the best method for improving these components. Moderate impact has been shown in germination test (26.66%) and rise in cost of cultivation (25%) unfolds that these components required some more trainings whereas low impact exhibited by micronutrient application (21.66%) area expansion under soybean (19.17%) scheduling of insecticides (l8.33%) and application of market survey (l2.50%). These components needs some other methods like demonstrations for improvements. The single components *i.e.*, yield which is the result of interactions of various components showed high level of improvement disclosed that seed treatment control and application of fertilizers played major role in boosting the yield.

Table 3. Impact of the training programme

Sl. No.	Items	Frequency (%)
1	Increase in area under soybean	23(19.17%)
2	Rise in cost cultivation	30(25%)
3	Increase confidence level in use of	
A	Seed treatment	46(38.33%)
B	Germination test	32(26.67%)
C	Fertilizer application	38(31.67%)
D	Micro-nutrient application	26(21.67%)
E	Scheduling of Insecticides	22(18.33%)
F	Weeds control	40(33.33%)
4	Increase in yield	39(32.50%)
5	Use of Market survey	15(12.50%)

Impact of training programme in terms of yield :

Table 4. Impact of trainings in term of soybean yield *(q/ha.)*

Indicators	Yields q/Ha.		Difference	't' value
	Before	After		
Yield	11.80	19.30	8.50	2.66

The impact of training was highly significant in terms of increased yield. This means that training on different cultivation practices viz; selection of variety, seed treatment, seed inoculation, plant geometry, weeding, use of micro-nutrient, scheduling of insecticides and marketing has helped the farmers to improve the additional yield at the rate of 8,50 q/ha.

Constraints in adoption of soybean technology :

The constraints perceived by the respondents which ailects the adoption of improved soybean technology in the farmer's field were unavailability of quality seed in adopting soybean technology(95%), followed by problems of labour availability(63.33), indiscriminate use of fertilizer(4L67%) and injudicious use of insecticides (39.17%).

Table 5. Constraints in adoption of soybean technology:

S. No.	Constrains	Frequency	Per cent	Rank
1	Unavailability of quality seed	114	95	1st
2	Problems of labour	76	63.33	2nd

	availability			
3	Indiscriminate use of fertilizer	50	41.67	3rd
4	Injudicious use of insecticides	47	39.17	4th

Suggestions given by the beneficiaries: There should proper qualitative seed supply system existed in the market for the benefiting community.

2, The extension personnels from the department of Agriculture should be refreshed timely so that they can provide latest techniques in the field for maximizing the crop yield. 3, There should be more number of extension personnels of KVK so that they can cover the area of whole district conveniently,

There should be a proper media centre which facilitates current scenario updates of crops to the fanning communities. 5, There should be proper control on mandi so that market cannot fluctuate and farmers could not affect adversely at the time of crop harvest.

The result of Soil testing report should be disclosed appropriate and timely so that farmers can apply the fertilizers in required quantity to their fields.

The availability of newly released varieties of various crops should be ensured.

CONCLUSION

The findings of the study revealed that the beneficiaries of the KVK were satisfactory in respect of educational status, size of land holding, annual income and extension contact. It was clearly observed that performance of the beneficiaries of this linkage were also satisfactory with regard to knowledge status about improved agricultural practices, adoption of improved agricultural practices, cropping pattern, use of inputs for crop cultivation, average productivity of major crops, income from agriculture, investment in agriculture,

borrowing, saving and attitude towards farming. Training and guidance given to trainees have played prime role in influencing technological changes, besides management orientation. Based on the findings of this research work, it can be concluded that access to appropriate agricultural technologies and transfer training and related improvements are essential to enhance production of soybean.

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