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Research Article

Training needs of Krishi input dealers for transfer of agricultural technology in eastern Rajasthan

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SUMMARY : The present study was conducted to assess the training needs of Krishi inputs dealers for transfer of agricultural technology in Sawi-Madhopur, Khandar, Chouth Ka Barwada and Bonli tehsils of Sawi-Madhopur district and Deoli, Tonk, Malpura and Uniara tehsils of Tonk district of Eastern Rajasthan. From each district 20 input dealers were selected randomly for the study to comprise the total sample of 160 respondents. The data were collected with the help of well constructed and pre-tested interview schedule. Knowledge of the respondents was measured by computing knowledge score. There were three major areas of Krishi inputs like seeds, fertilizers and pesticides. Out of 160 respondents only 10 per cent were having high knowledge, 74.37 per cent were having medium knowledge and 15.63 per cent respondents were having low knowledge level. Training needs of Krishi inputs dealers were measured by computing training need score. The training area regarding input categories were divided into three sub-areas with the help of experts from respective field, each input category had nine sub-areas. These areas were rated by the respondents on a three point rating scale as “most needed”, “needed” and “not needed”. All Krishi input daelers (100.00 %) perceived training needs in sub-areas of seed as type of seeds, germination power of seeds, viability of seeds and improved varieties or hybrids of crops included in first rank. All respondents (100.00 %) perceived training needs in sub-areas of fertilizer as type of fertilizers, content of fertilizer, fertilizer application methods, calculation of fertilizer dose, bio-fertilizer included in first rank. Similarly all Krishi input dealers (100.00 %) perceived training needs in sub-areas of pesticides, calculation of pesticide dose/ha, major pests of crops, pest control by proper pesticides included in first rank.

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KEY WORDS :
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BACKGROUND AND OBJECTIVES

Invention of agricultural technology and its transfer and adoption by farmers requires modernization of agriculture. For transferring agricultural technologies public services plays an important role. But the public extension services by itself is not enough to handle the multifarious demands of the farming community and being supplemented by private extension, though on a limited scale, by the Krishi input dealers, agencies like NGO, farmers organization etc. Krishi input dealers play an important role in transfer of agricultural technology at the level of extension linkage. So, it is necessary to train the Krishi input dealers in respect of new technology so that they will change and adjust with new circumstances. Training can help to improve a person’s skill, power of intelligence and also develops the desired attitudes and values required for work. Approaches to agricultural extension in India and worldwide continue to evolve. Since the Green Revolution in the 1970s and 1980s and the acknowledged unsustainability of the training and visit (T and V) programme (Anderson *et al.*, 2006; Moore, 1984), agricultural extension, with its focus on increasing production via technology transfer, has adopted decentralized, participatory and demand-driven approaches in which accountability is geared toward the users (Birner

et al., 2006; Birner and Anderson, 2007; Davis, 2008; Hall *et al*., 2000; Kokate *et al*., 2009; Sulaiman and Hall, 2008; Swanson, 2009). While the call for demand-driven agricultural extension has existed for several decades now, new modes of reaching out to farmers could have significant impact in India, as they might better reflect the local information needs of farmers. To make the training programme more effective, training needs of the Krishi inputs dealers have to be assessed before organization of any training programme. Keeping in view the above facts, the present study was undertaken to assess the knowledge and training needs of Krishi inputs dealers.

RESOURCES AND METHODS

The present study aimed at estimating knowledge, determining the training needs of Krishi input dealers regarding seeds, fertilizers, pesticides and obtained the suggestions about organizing training programme for Krishi input dealers.

This study was confined to Sawi-Madhopur, Khandar, Chouth Ka Barwada and Bonli tehsils of Sawi-Madhopur district and Deoli, Tonk, Malpura and Uniara tehsils of Tonk district of Eastern Rajasthan. These tehsils were selected purposively because of the major market place for cereals, oilseeds, fruits, vegetables and spices and sufficient number of the Krishi input dealers was available for the study. List of Krishi input dealers was obtained from Agriculture Department of both districts. There were total 763 Krishi input dealers in both districts and 575 Krishi input dealers in selected ten tehsils. From each tehsil 20 Krishi input dealers were selected randomly for the study to comprise the total sample of 160 respondents.

An interview schedule was prepared on the basis of objective of the study for data collection. The interview schedule which was originally prepared in English was translated in Hindi, so that it could be easily understood by the Krishi input dealers. For the sake of accuracy, the language of questions was kept simple and easy in order to easy understanding by the respondents. The respondents were personally interviewed and the required data were collected which afterwards processed and analyzed.

Knowledge level of Krishi input dealers:

Knowledge of Krishi input dealers about the inputs they deal was measured by computing knowledge score. There were three major areas of Krishi inputs like seeds, fertilizers and pesticides. Ten objective questions were framed by suggesting four alternatives out of which one was currect answer in each area. One score was assigned for the correct and zero score was given for incorrect answer. Thus, the total score range was from 0 to 30 in the present study. The categories were made on the basis of mean and standard deviation as low level (up to 16.58), medium level (16.59 to 23.55) and high level (23.56 and above) of knowledge.

Training needs of Krishi input dealers:

Training needs was measured by computing training need score. The training areas regarding input categories were divided into three sub-areas with the help of experts from respective field, each input category had nine sub-areas. These areas were rated by the respondents on a three point rating scale as “most needed”, “needed” and “not needed”.

OBSERVATIONS AND ANALYSIS

The experimental findings obtained from the present study have been discussed in following heads:

Knowledge level of the Krishi input dealers:

The knowledge level of Krishi input dealers was measured and the data are depicted in Table 1. It was revealed that majority of the Krishi input dealers (74.37 %) had medium level of knowledge followed by low level of knowledge (15.63 %) and very few (10.00 %) had high level of knowledge related to farm inputs like seeds, fertilizers and pesticides.

Table 1: Distribution of Krishi input dealers according to knowledge level (n=160)

Category	Frequency	Per cent
Low	25	15.63
Medium	119	74.37
High	16	10.00
Total	160	100.00

Training needs of Krishi input dealers:

The Krishi input dealers were grouped into three categories as per their training needs and the data are presented in Table 2. From the table it was found that majority of the Krishi input dealers (72.50 %) needed training followed by 14.37 per cent not needed training and 13.13 per cent of the respondents most needed training on transfer of agricultural technologies.

Table 2: Distribution of Krishi input dealers by their training needs (n=160)

Category	Frequency	Per cent
Not needed	23	14.37
Needed	116	72.50
Most needed	21	13.13
Total	160	100.00

Area wise training of the Krishi input dealers:

By identifying sub-areas of seeds, fertilizers and pesticides the specific areas of training needs of Krishi input dealers were identified. Information presented in Table 3 revealed that Krishi input dealers had expressed their training needs in all sub-areas ranked on need hierarchy basis of the

areas of seeds. All Krishi input dealers (100.00%) perceived training needs in the sub-areas such as type of seeds, germination power of seeds, viability of seeds and improved varieties or hybrids of crops included in first rank, cultivation of hybrid seeds (96.25%) included in second rank, certification of seeds (95.00%) included in third rank, seed treatment (92.50%) included in fourth rank, storage requirement of seeds (91.87%) included in fifth rank and Governmenmt laws and regulations (88.12 %) included in sixth rank.

The Krishi input dealers had expressed their training needs in all sub-areas ranked on need hierarchy basis of the areas of fertilizers (Table 4). All Krishi input dealers (100.00 %) perceived training needs in the sub-areas such as type of fertilizer, content of fertilizer, fertilizer application methods, calculation of fertilizer dose, bio-fertilizer included in first rank, micro-fertilizer (96.88 %) included in second rank, liquid fertilizers and methods of use (91.26 %) included in third rank, improvement of saline or alkaline soils (88.13 %) included in fourth rank and Government laws and regulations (83.75 %) included in fifth rank.

Table 3 : Training need areas related to seeds **(n=160)**

Sub-areas of training related to seeds	Per cent			Total (A+B+C)	Need hierarchy rank
	Most needed (A)	Needed (B)	Not needed (C)		
Type of seeds	100.00	00.00	00.00	100.00	I
Germination power of seeds	88.75	11.25	00.00	100.00	I
Viability of seeds	81.25	18.75	00.00	100.00	I
Cultivation of hybrid seeds	76.25	20.00	03.75	96.25	II
Improved varieties or hybrids of crops	78.13	21.87	00.00	100.00	I
Certification of seeds	70.63	24.37	05.00	95.00	III
Seed treatment	30.00	62.50	07.50	92.50	IV
Storage requirement of seeds	31.25	60.65	08.13	91.87	V
Governmenmt laws and regulations	33.75	54.37	11.88	88.12	VI

Table 4 : Training need areas related to fertilizers **(n=160)**

Sub-areas of training related to fertilizers	Per cent			Total (A+B+C)	Need hierarchy rank
	Most needed (A)	Needed (B)	Not needed (C)		
Type of fertilizers	100.00	00.00	00.00	100.00	I
Content of fertilizers	100.00	00.00	00.00	100.00	I
Fertilizer application methods	95.00	05.00	00.00	100.00	I
Calculation of fertilizer dose	93.75	06.25	00.00	100.00	I
Bio-fertilizers	75.00	25.00	00.00	100.00	I
Micro-fertilizers	62.50	34.38	03.12	96.88	II
Liquid fertilizers and methods of use	46.88	44.38	08.74	91.26	III
Improvement of saline or alkaline soils	39.38	48.75	11.87	88.13	IV
Government laws and regulations	35.00	48.75	16.25	83.75	V

Table 5 : Training need areas related to pesticides **(n=160)**

Sub-areas of training related to pesticides	Per cent			Total (A+B+C)	Need hierarchy rank
	Most needed (A)	Needed (B)	Not needed (C)		
Type of pesticides	100.00	00.00	00.00	100.00	I
Calculation of pesticide dose/ha	86.25	13.75	00.00	100.00	I
Major pests of crops	80.00	20.00	00.00	100.00	I
Pest control by proper pesticides	81.87	18.13	00.00	100.00	I
Preparation of pesticide solution	70.00	20.63	09.37	90.63	II
Method of proper spraying	54.37	31.25	14.38	85.62	IV
Integrated pest management (IPM)	73.13	15.63	11.24	88.76	III
Control of stored grain pests	50.63	33.75	15.62	84.38	V
Government laws and regulations	37.50	36.87	25.63	74.37	VI

The Krishi input dealers had expressed their training needs in all sub-areas ranked on need hierarchy basis of the areas of pesticides (Table 5). All Krishi input dealers perceived (100.00 %) training needs in the sub-areas such as type of pesticide, calculation of pesticide dose/ha, major pests of crops, pest control by proper pesticides included in first rank, preparation of pesticide solution (90.63 %) included in second rank, integrated pest management (88.76 %) included in third rank, method of proper spraying (85.62 %) included in fourth rank, control of stored grain pests (84.38 %) included in fifth rank and Government laws and regulations (74.37 %) included in sixth rank. The findings of the study are in line with the findings obtained by Bhosale and Bhonde (2004); Mande and Darade (2011). Similarly Chiranthan *et al*. (2014) worked on relationship of personal characteristics of youth with their training needs, Saritha and Pushpa (2012) on training needs of farmers of cashew based dryland farming, Pagaria (2012) on sheep husbandry, Verma and Ansari (2013) on potato growers.

Conclusion:

From the findings and discussion of the study it can be concluded that majority of Krishi input dealers had medium level of knowledge (74.37 %) about advanced technologies related to use of seeds, fertilizers and pesticides. Most of the Krishi input dealers had needed training in sub-areas. So, organizers of training programmes should lay emphasis on their preferences while conducting training programmes to make them more useful and dividend paying to Krishi input dealers.

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