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Training Need Assessment of Vegetable Farmers in Bundi District of Rajasthan

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ABSTRACT

Due to technological advancement in vegetable cultivation, there is a strong need to train the growers to keep them abreast about improved technologies for improving their productivity and increasing income. Thus, for organizing effective training programme, the present study was planned with objective to identify the training needs of vegetable farmers. The study was conducted in Bundi district of Rajasthan to identify the training needs of vegetable growers. A sample of 120 farmers was selected through stratified random sampling technique as respondent. The selected respondents were interviewed personally with the help of a well structured and pre-tested interview schedule. The data collected were tabulated and statistically analyzed to interpret the results. The overall training need of farmers have been measured in terms of training need quotient (TNQ). It was observed that farmers required intensive training on harvest management of vegetables. Further, training need intensity of farmers in other aspects of vegetable cultivation like field preparation, seed and sowing, manure and fertilizer management, intercultural operations, plant protection and marketing was medium.

Vegetables being cash crop can play a significant role for improving the livelihood of farmers, particularly small and marginal farmers. But the productivity level of farmers is very low particularly of resource poor farmers. The farmers could increase production and productivity of through adoption of new technologies. The adoption of improved technologies require high level of technical knowledge in areas package of practices and synchronized with needs and requirement of farmers like selection of vegetables, varities, methods of nursery raising and transplanting, sowing time, seed rate, manuring and fertilizers, plant protection measures, picking, grading, processing, marketing, pre and post harvest management, storing, transport and value added product for bringing the increase yield and productivity per hectare and overall production of vegetable and improve livelihood. Due to technological advancement in vegetable cultivation, there is a strong need to train the growers to keep them abreast about improved technologies for improving their productivity and increasing income. Thus, for organizing effective training programme, it is very essential to analyze the training need of the vegetable growers. Therefore, the present study was planned with objective to identify the training needs of vegetable farmers.

METHODOLOGY

The study was conducted in Bundi district of Rajasthan to identify the training needs of vegetable growers. The population of the study consisted of vegetable grower from four selected villages Bichri, Kummawato ka Jhopra, Datta and Dhakni of Hindoli block in district. These villages were selected purposively. A sample of 120 farmers was selected through stratified random sampling technique as respondent. In order to ascertain the training need, an exhaustive list of possible needs was prepared through meticulous review of literature, consultation with experts and extension workers. The selected respondents were interviewed personally with the help of a well structured and pre-tested interview schedule. Responses of respondents were quantified by assigning the score of 3,2,1,0 for “most needed”, “needed”, “somewhat needed” and “not

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need" respectively. The data thus collected were tabulated and statistically analyzed to interpret the results. The overall training need of farmers have been measured in terms of training need quotient (TNQ).

RESULTS AND DISCUSSION

Profile of the respondents

Socio economic characteristics of respondent farmers were analysed and presented in Table 1. The table indicated that majority (40.00 %) of the respondents belonged to middle age group followed by young age (35.00 %) and old age (25.00 %) group. The frequency distribution was highly skewed towards the younger respondents. While looking at the educational status of respondent, results revealed that majority (49.16 %) of respondents were functionally literate (up to middle class) followed by illiterate (20.83 %), high school (16.67 %) and graduate and above (3.34 %). Results on land holding demonstrated that nearly 80.00 per cent of respondents were marginal (48.34 %) to small (33.33 %) farmers. A sizable portion of sample had more than five years of vegetable farming experience.

Out of total 120 respondents under study, 54.17 per cent had a low exposure to the mass media followed by 33.33 per cent and 12.50 per cent had medium and high exposure to the mass media, respectively. Further, it was also observed that majority of respondents had low extension contacts.

Training needs

The training needs of respondent farmers about various aspects of vegetable farming including field preparation, seed and sowing, manure and fertilizer management, intercultural operation, plant protection, harvest management and marketing were identified and presented in Table 2 to 9.

Training needs in field preparation

Data presented in Table 2 reveals that farmers need intensity training in land preparation which includes selection of soil, test of soil and land preparation with mean TNQ values of 0.49, 0.46 and 0.45 respectively. The highest TNQ value 0.50 found in sub aspect 'land preparation' of tomato. Kaur and Khurana (1960) and Singh et al (2004) also

Table 1. Distribution of respondents based on their socio economic characteristics (N=120)

Variables	Category	Frequency	Percentage
Age (in years)	Young (18-35)	42	35.00
	Middle (35-50)	48	40.00
	Old (50 and above)	30	25.00
Education	Illiterate	25	20.83
	Primary	29	24.16
	Middle	42	35.00
	Matriculate	20	16.67
	Graduate	4	3.34
Operational land holding	Marginal (below 2.5 acre)	58	48.34
	Small(2.5-5)	40	33.33
	Medium (5-25 acre)	52	18.33
	Large (above 25 acre)	0	0.0
Experience vegetable farming	Low (1-5 year)	32	26.67
	Medium (5-10 year)	60	57.50
	High (above 10 year)	10	15.83
	OBC	81	67.50
	SC	6	5.00
	ST	29	24.16
Extension contact	Low	78	65.00
	Medium	35	29.16
	High	7	5.84
Mass media exposure	Low	65	54.17
	Medium	40	33.33
	High	15	12.50

reported medium training need intensity in soil management aspect of vegetable cultivation.

Training needs in seed and sowing

Data presented in Table 3 indicate that respondent farmers are lacking skills like appropriate time sowing time, variety selection, seed rate, nursery raising & transplanting and spacing with TNQ mean values of 0.46, 0.51, 0.48, 0.51, and 0.49 respectively and requirement is medium. In tomato and chilly found that TNQ value in variety selection (0.54 and 0.55), seed rate (0.54 and 0.52), nursery raising & transplanting (0.51 and 0.52) and spacing (0.53 and 0.52) respectively. It means that in these sub aspects in tomato and chilly growers had required more training than other vegetables i.e. okra and pea.

Table 2. Training needs in field preparation

Sub-aspect	Training need quotient (TNQ) of vegetable cultivator				Mean score	Training need intensity
	Okra	Pea	Tomato	Chilly		
Selection of soil	0.48	0.52	0.49	0.49	0.49	Medium
Test of soil	0.46	0.45	0.47	0.47	0.46	Medium
Land preparation	0.41	0.43	0.5	0.49	0.45	Medium

Training needs in manure and fertilizer management

Data in Table 4 revealed that farmers had medium training needs in area of manure, major nutrient; micro nutrients and bio fertilizers. Skill involved in manure and fertilizer management such as use recommended dose with right method, time and rate of application will help farmers in efficient use of manure and fertilizers. .

Training needs in intercultural operation

Data depicted in Table 5 revealed that the highest TNQ value was observed in sub aspect irrigation i.e. 0.50 and followed by weed management (0.49) and hoeing and earthing (0.45). These are the aspects where farmers need medium intensity training.

Table 3. Training needs in seed and sowing

Sub-aspect	Training need quotient (TNQ) of vegetable cultivator				Mean score	Training need intensity
	Okra	Pea	Tomato	Chilly		
Sowing time	0.42	0.43	0.50	0.51	0.46	Medium
Verity selection	0.49	0.48	0.54	0.55	0.51	Medium
Seed rate	0.45	0.43	0.54	0.52	0.48	Medium
Nursery raising & Transplanting	-	-	0.51	0.52	0.51	Medium
Spacing	0.48	0.45	0.53	0.52	0.49	Medium

Training needs in plant protection

The data in table 6 revealed that insect-pest, diseases, physiological disorder, bio-agents and IPM had medium training need intensity and TNQ values 0.53, 0.54, 0.50, 0.51 and 0.54 respectively. It may be inferred that respondents need training in sub aspects; insect-pest (0.55 both) and diseases (0.57 and 0.56) of tomato and chilly vegetables. The pea vegetable respondent training need was high in IPM with TNQ value 0.56 and followed by tomato and chilly vegetables respectively. Similarly, Pandaria et al (1999) was reported that plant protection as an important aspect in which farmers needed training.

Training needs in harvest management

The figures in Table 7 indicated that sub aspects of pre harvest operation, post harvest operation and storage had high training need intensity with mean TNQ values 0.62, 0.64 and 0.63 respectively. However, post harvest losses in vegetables are very high and about 10-15 % fresh vegetables lowering their market value of growers. So minimize these losses are increase their supply with

Table 4. Training needs in manure & fertilizer management

Sub-aspect	Training need quotient (TNQ) of vegetable cultivator				Mean score	Training need intensity
	Okra	Pea	Tomato	Chilly		
Manure	0.47	0.46	0.5	0.49	0.48	Medium
Major Nutrient	0.48	0.45	0.54	0.53	0.50	Medium
Micro Nutrient	-	-	0.54	0.50	0.52	Medium
Bio fertilizer	0.51	0.55	0.54	0.52	0.53	Medium

bringing additional land under cultivation (Anonymous, 2001). Further analysis it is found that in the aspect of harvest management, farmers of vegetable growers had high training need intensity for successful vegetable cultivation. Raju et al (2003) also found that farmer preferred for training in post harvest technology to minimize the losses.

Table 5. Training needs in intercultural operation

Sub-aspect	Training need quotient (TNQ) of vegetable cultivator				Mean score	Training need intensity
	Okra	Pea	Tomato	Chilly		
Irrigation	0.51	0.49	0.52	0.51	0.50	Medium
Weed management	0.48	0.47	0.5	0.52	0.49	Medium
Hoeing & Earthing	0.45	0.41	0.49	0.50	0.46	Medium

growers had high TNQ value 0.72 and followed by chilly, pea and okra growers with TNQ values 0.71, 0.68 and 0.62 respectively.

Overall training need

Data presented Table 9 indicate overall training need of respondent farmers in various aspects of vegetable farming. It obvious from the table that farmers required intensive training on harvest management of vegetables. Further, training needs of farmers in vegetable cultivation aspects like field preparation, seed and sowing, manure and fertilizer management, intercultural operations, plant protection and marketing was medium intensity with TNQ mean values 0.47, 0.49, 0.50, 0.48, and 0.57 respectively.

Training needs in marketing

The data in Table 8 shows that in the sub aspects of value addition had high training need intensity with TNQ value 0.68 and other sub aspects harvest stage (0.59), grading (0.52), packaging (0.58) and transportation (0.50) had medium training need intensity. The analysis of the sub aspect of value addition, it was found that tomato

Table 6. Training needs in plant protections

Sub-aspect	Training need quotient (TNQ) of vegetable cultivator				Mean score	Training need intensity
	Okra	Pea	Tomato	Chilly		
Insect-Pest	0.51	0.51	0.55	0.55	0.53	Medium
Diseases	0.54	0.49	0.57	0.56	0.54	Medium
Physiological disorder	-	-	0.52	0.48	0.5	Medium
Bio agents	0.49	0.5	0.54	0.53	0.51	Medium
IPM	0.52	0.56	0.55	0.55	0.54	Medium

Table 7. Training needs in harvest management

Sub-aspect	Training need quotient (TNQ) of vegetable cultivator				Mean score	Training need intensity
		Okra	Pea	Tomato	Chilly	
Pre harvest operation	0.59	0.54	0.68	0.69	0.62	High
Post harvest operation	0.62	0.59	0.7	0.68	0.64	High
Storage	0.55	0.55	0.71	0.71	0.63	High

Table 8. Training needs in marketing

Sub-aspect	Training need quotient (TNQ) of vegetable cultivator				Mean score	Training need intensity
		Okra	Pea	Tomato	Chilly	
Harvest stage	0.53	0.52	0.67	0.65	0.59	Medium
Grading	0.51	0.48	0.56	0.54	0.52	Medium
Packaging	0.50	0.49	0.68	0.65	0.58	Medium
Transportation	0.45	0.49	0.55	0.53	0.50	Medium
Value addition	0.62	0.68	0.72	0.71	0.68	High

Table 9. Training needs of selected aspect of vegetable cultivation

Sub-aspect	Training need quotient (TNQ) of vegetable cultivator				Mean score	Training need intensity
	Okra	Pea	Tomato	Chilly		
Field preparation	0.45	0.46	0.48	0.48	0.47	Medium
Seed and Sowing	0.45	0.46	0.52	0.51	0.49	Medium
Manure & Fertilizer management	0.48	0.48	0.53	0.51	0.50	Medium
Intercultural operation	0.48	0.45	0.50	0.51	0.48	Medium
Plant protection	0.51	0.51	0.54	0.53	0.52	Medium
Harvest management	0.58	0.56	0.69	0.69	0.63	High
Marketing	0.52	0.53	0.63	0.61	0.57	Medium

CONCLUSION

The findings of the study clearly revealed that the vegetables growers had high training need intensity in the aspects of harvest management. Whereas, in other aspects i.e. field preparation, seed and sowing, manure & fertilizer management, intercultural operation, plant protection and marketing had medium training need intensity. Therefore, more emphasis should be given to these aspects and their sub aspects while planning training programme on vegetable cultivation.

REFERENCES

Chadha, K. L. (2001). Handbook of Horticulture. DIPA, ICAR, New Delhi.

Kaur, S. and Khurana, G. S. (1996). Training needs of vegetable growers in Ludhiana. *Agricultural Extension Review,* **8** (3): 19-22.

Pandaria, R. N.; Chauhan, K.N.R. and Meena, Y. R. (1999). Training needs of arid farmers. *Agricultural Extension Review,* **11** (2): 7-10.

Raju, K. A.; Kamala, T. S. and Murthy, CH. R. K. (2003). Betelvine growers training needs and strategies. *Agricultural Extension Review,* **15** (3): 9-12.

Singh, S.; Ladhar, D. S. and Saini, S. K. (2004). Training needs of vegetable growers of Punjab. *Indian Journal of Extension Education,* **40** (3 & 4): 80-82.