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Comparative analysis of effectiveness of EDP trainings of KVKs under different host agencies in Kerala

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Abstract

The state of Kerala formed the study area. Out of 14 KVKs working under different host organizations in Kerala *viz*. Kerala Agricultural University (KAU), Indian Council of Agricultural Research (ICAR) and Non-governmental organizations (NGOs), a total of 5 KVKs (2 KAU KVKs, 2 ICAR KVKs and 1 NGO KVK) to represent southern, central and northern regions of the state were purposively selected. This study aims to estimate the effectiveness of Entrepreneurship Development Training Programmes of KVKs under different host agencies in Kerala. Thus 20 EDP trainees from each of the selected KVKs, Kasaragod (ICAR) and KVK Malappuram (KAU) from northern region, KVK, Alappuzha (ICAR) and KVK, Kottayam (KAU) from central and KVK Trivandrum (NGO) from the southern region were randomly selected to make a total sample of 100 trainees. The training effectiveness score revealed that the respondents were satisfied with training output, teaching quality and coverage of topics provided during the EDP training. However, the respondents perceived that the physical facility was not sufficient. Overall training effectiveness score of the EDP training programme was worked out to be 79.45 per cent which indicated that the KVK EDP training was perceived as very effective by the respondents. Kruskal-Wallis test performed to compare the perceived effectiveness scores of EDP trainings of different KVKs showed that there was no significant difference among the KVKs in training effectiveness. Age, educational status, land holding, annual income, extension contact, mass media exposure, innovativeness, achievement motivation, decision making ability, risk orientation, self-confidence, cosmopoliteness and economic motivation were found to be positive and significant with the training effectiveness.

Keywords: Krishi Vigyan Kendras, entrepreneurship development programmes, training effectiveness, KVK EDP trainees, perception

Introduction

Recent years have seen the emergence of Entrepreneurship development programmes (EDP) as a major extension intervention in income and employment generation in Agriculture and allied sectors.

Entrepreneurship Development Programmes are mainly concerned with enabling a person in developing his/her entrepreneurial skills, motives and capabilities which are essential for playing his entrepreneurial role effectively. It is an effective technique for the development of human resources. It results in proper utilization of local resources, employment generation and promotion of small scale units and overall development of individuals (Masur, 2014) [4].

A lot of effort has been undertaken by both government and non-government organizations to promote entrepreneurial development in the country through Entrepreneurship Development Programmes (EDP). In this regard, many agencies and institutions are working towards organizing EDP. And one such institution is the Krishi Vigyan Kendras (KVKs), the first line transfer of technology (TOT) centres of the Indian Council of Agricultural Research (ICAR). As nodal agricultural resource centres at the district level, they have significant role in improving the farmers' income by facilitating entrepreneurship development. Keeping in view the need and importance of EDP trainings by KVKs, an assessment of effectiveness of Entrepreneurship Development Training Programmes assumes significant importance. Also in order to see if the EDP trainees are benefitted or not with the training and if any improvement is needed regarding the training output, teaching ability, teaching quality, topic coverage, facilities etc assessment of training is a must. The purpose of this study, therefore, is to assess of Entrepreneurship Development Training Effectiveness through the perception of KVK EDP Trainees and the findings of the study would be an important document which would be of practical use to the KVKs of Kerala in planning future EDP trainings.

Methodology

Kerala formed the locale of the study. The present study was conducted during 2019-20. Ex-post facto research design was employed. Out of the 14 KVKs working under different host organizations in Kerala *viz*. Kerala Agricultural University (KAU), Indian Council of Agricultural Research (ICAR) and Non-governmental organizations (NGOs) a total of 5 KVKs (2 KAU KVKs, 2 ICAR KVKs and 1 NGO KVK) to represent southern, central and northern regions of the state were selected for the study. Purposive sampling

was followed to select KVK, Kasaragod (ICAR) and KVK Malappuram (KAU) from northern region, KVK, Alappuzha (ICAR) and KVK, Kottayam (KAU) from central and KVK Trivandrum (NGO) from the southern region. Respondent selection followed a random sampling technique to select 20 EDP trainees from each of the selected KVKs to make a total sample of 100 trainees.

The method followed by Senthilkumar (2014) [8] was adopted with suitable modifications to find out the effectiveness of training programmes through the perception of KVK trainees. The respondents were interviewed using the set of structured questions which comprised of statements and were placed on a 3 point continuum ranging from strongly agree/most adequate, agree/adequate and disagree/least adequate with scores of 2, 1 and 0 respectively. The trainees' preferences towards various aspects of training were asked and tabulated. For identifying individual effectiveness of the training aspects, the following formula was applied:

$$TE=\frac{D_1}{P_1}+\frac{D_2}{P_2}+\frac{D_3}{P_3}+\cdots+\frac{D_n}{P_n}\times 100$$

Where TE= Training effectiveness, D_1, D_2, D_3,.....D_n Referred to the total scores obtained by all the trainees on a particular dimension of items P_1, P_2, P_3.....P_n Referred to the potential scores obtainable on each dimension included in the research study. In order to calculate the overall programme effectiveness the following formula was used.

$$OPE=\frac{TEI_1+TEI_2+TEI_n}{Z}$$

Where summation, TEI_1+ TEI_2 refers to the individual item effectiveness for all the items 1 to Z included in the programme.

The Kruskal-Wallis nonparametric test was used to determine if there were statistically significant differences between the perceived training effectiveness scores of the trainees.

Results and Discussion

Table 1 showed that majority (47%) of the respondents belonged to the middle age group (36 to 50 years) and the participation of women in EDPs was higher (60.00%) compared to men which was only 40.00 per cent. The findings were in line with the results reported by Pandey (2017) [6] and Geethu (2019) [3]. Maximum distribution of respondents was found in the married category (88%) with only 12% in the unmarried group. A significant majority (90.00%) of the EDP trainees had nuclear family and majority of the trainees (57%) were having small size nuclear families of size four or less. The findings are supported by the results of Sinha (2016) [9]. 60 per cent of them had acquired high school level of education while 34.00 per cent of them possessed educational qualification up to college level. The results were in concurrence with the findings of Pandey (2017) [6]. 61 per cent had business as their primary occupation and was not involved in any farming while 35% of the respondents had business along with farming as their occupation. More than half (53.00%) of the EDP trainees had medium level of medium extension contact and about 54.00 per cent of the EDP trainees had medium exposure to mass media. This was in-line with the findings of Pandey (2017) [6]. With regard to economic variables, 72% of the KVK EDP trainees were marginal land holders with holding size less than 1.00 ha and major income group of 28.00 per cent had annual income more than three lakh rupees. More than half (58%) of the respondents were medium in their innovativeness, about half (51%) were found to have medium level of achievement motivation, 49% had medium decision making ability scores, 51% had medium level of risk orientation, 59 per cent of the respondents had medium level of self-confidence, 64% had medium level of cosmopoliteness and majority of the respondents (56%) had medium level of economic motivation.

Table 1: Profile of KVK EDP Trainees N=100

Category	Classification of category	Frequency	Percentage
Age	Young age (upto 35 years)	14	14
	Middle age (36-50 years)	47	47
	Old age (> 50 years)	39	39
Gender	Male	40	40
	Female	60	60
Marital status	Married	88	88
	Unmarried	12	12
Family type	Nuclear family	90	90
	Joint family	10	10
Family size	Small (upto 4 members)	57	57
	Medium (5-8 members)	33	33
	Large (above 8 members)	10	10
Educational status	Illiterates	0	0
	Primary school	0	0
	Middle school	6	6
	High school	60	60
	College/JOC	34	34
Occupational status	Agriculture (farming)	0	0
	Farming + Business	35	35
	Farming +Service jobs	4	4
	No-farming only business	61	61
	Any other	0	0

Extension contact	Low (<Q_1)	22	22
	Medium (Q_1 to Q_3)	53	53
	High (>Q_3)	25	25
	Q_1=50, Q_3=74.37, Range=65		
Mass media exposure	Low (<Q_1)	21	21
	Medium (Q_1 to Q_3)	54	54
	High (>Q_3)	25	25
	Q_1=5, Q_3=9.75, Range=9		
Land holding	Marginal farmer(< 1.0 ha)	72	72
	Small farmer(1.0 - 2.0 ha)	19	19
	Medium farmer(2.1 - 4.0 ha)	7	7
	Large farmer(>4.0 ha)	2	2
Annual income(Rs)	Less than 50000	1	1
	50000 to 100000	10	10
	100000 to 150000	13	13
	150000 to 200000	11	11
	200000 to 250000	21	21
	250000 to 300000	16	16
	More than 300000	28	28
Innovativeness	Low (<Q_1)	21	21
	Medium (Q_1 to Q_3)	58	58
	High (>Q_3)	21	21
	Q_1=20, Q_3=45, Range=45		
Achievement motivation	Low (<Q_1)	20	20
	Medium (Q_1 to Q_3)	51	51
	High (>Q_3)	29	29
	Q_1=20, Q_3=45, Range=45		
Decision making ability	Low (<Q_1)	22	22
	Medium (Q_1 to Q_3)	49	49
	High (>Q_3)	29	29
	Q_1=22, Q_3=58.33, Range=58		
Risk orientation	Low (<Q_1)	15	15
	Medium (Q_1 to Q_3)	51	51
	High (>Q_3)	34	34
	Q_1=15, Q_3=34, Range=36.67		
Self confidence	Low (<Q_1)	16	16
	Medium (Q_1 to Q_3)	59	59
	High (>Q_3)	25	25
	Q_1=25, Q_3=48.44, Range=43.75		
Cosmopoliteness	Low (<Q_1)	21	21
	Medium (Q_1 to Q_3)	64	64
	High (>Q_3)	15	15
	Q_1=21, Q_3=60, Range=53.33		
Economic motivation	Low (<Q_1)	27	27
	Medium (Q_1 to Q_3)	56	56
	High (>Q_3)	17	17
	Q_1=26.67, Q_3=60, Range=60		

Effectiveness of EDP trainings of KVK

Evaluation of training effectiveness of EDP trainings organized by the KVKs was undertaken based on four selected dimensions of training *viz*. training output, teaching quality, availability of physical facilities and training content.

The trainees' perception about the KVK EDP training were asked based on a three-point continuum scale on these four dimensions and the responses so obtained are presented in table 2 to 5.

Evaluation of EDP training effectiveness based on training output

A perusal of results in Table 2 shows that with regard to training output, the training effectiveness scores (TES) ranged from 70 to 89 per cent, which shows that the training output was perceived as very much effective by the respondents. It could be inferred from the results that the KVKs were effective in providing need based trainings that enabled the trainees to start entrepreneurship. The respondents felt that KVKs, to be more effective need to focus more on disseminating new technologies that helped the trainees increase their knowledge that resulted in quality output from the enterprises. The trainings from KVK also helped the respondents to know about different agencies involved with entrepreneurship development. The results are on par with the findings of Dubey *et al.* (2007) [1] and Devi *et al.* (2016) [2].

Table 2: Training effectiveness based on perceived benefits of training output

Sl. No.	Training outputs	Degree of perception					
		SA	A	D	TS	EPR	TES
1	KVK training was need based	80	18	2	178	0.89	89
2	KVK training increased knowledge on EDP	57	42	1	156	0.78	78
3	KVK training helped to know new technologies	42	56	2	140	0.7	70
4	KVK training helped to start entrepreneurship	66	34	0	166	0.83	83
	AVERAGE SCORE	61.25	37.5	1.25	160	0.80	80

SA- Strongly agree; A-Agree; D-Disagree; TS-Total score, EPR- Extent Potential Ratio; TES- Total Effectiveness Score

Evaluation of EDP training effectiveness based on teaching quality

The findings depicted in Table 3 showed that with respect to teaching quality, the training effectiveness scores (TES) for individual aspects indicating the relative effectiveness ranged from 70 to 91.5 per cent. The respondents felt that more number of subject matter specialists may be needed in the KVKs. This was in-line with the findings of Senthilkumar (2014) [8]. The respondents perceived that the KVK staffs mingled freely with trainees and taught in simple manner. It can be inferred that Subject matter specialists are not adequate for teaching about EDP in the KVKs. These finding were supported by the findings of Dubey *et al.* (2007) [1] and Sarma *et al.* (2013) [7].

Table 3: Training effectiveness based on perceived benefits of teaching quality

Sl. No.	Teaching quality	Degree of perception					
		SA	A	D	TS	EPR	TES
1	KVK staffs are adequate to provide EDP trainings	61	36	3	158	0.79	79
2	KVK staff taught in simple manner	83	17	0	183	0.915	91.5
3	More number of SMS are needed to teach about EDP in KVK	44	52	4	140	0.7	70
4	KVK staff mingled freely with trainees	75	24	1	174	0.87	87
	AVERAGE SCORE	65.75	32.25	2	163.75	0.81	81.75

SA- Strongly agree; A-Agree; D-Disagree; TS-Total score, EPR- Extent Potential Ratio; TES- Total Effectiveness Score

Evaluation of EDP training effectiveness based on availability of physical facilities

The average training effectiveness scores (76) for the physical facilities were assessed in terms of transportation and lodge facilities. The total effectiveness score under physical facilities ranged from 55 to 92 per cent (Table 4). The effectiveness with regard to the lecture hall and audio-visual aids were perceived as high by the respondents. However, the transport and lodging facilities provided during training programme were not satisfactory. Effective use of transport and lodging facilities might further increase the effectiveness of the training. This was supported by the findings of Devi *et al.* (2016) [2] who reported that effective transport facilities by KVKs might increase the training effectiveness.

Table 4: Training effectiveness based on perceived benefits of available physical facilities

Sl. No.	Physical facilities	Degree of perception					
		SA	A	D	TS	EPR	TES
1	Lecture hall	84	16	0	184	0.92	92
2	Audio-visual aids	78	22	0	178	0.89	89
3	Transport facilities	51	35	14	137	0.685	68.5
4	Lodging facilities	31	49	20	111	0.55	55
	AVERAGE	61	30.5	8.5	152.5	0.76	76

SA- Strongly agree; A-Agree; D-Disagree; TS-Total score, EPR- Extent Potential Ratio; TES- Total Effectiveness Score

Evaluation of EDP training effectiveness based on training content

It could be observed from Table 5 that with respect to the coverage of topics, the total effectiveness scores ranged from 64 to 94.5. In the coverage of topics, the lowest effectiveness score was for topics like Entrepreneurial motivation, business opportunities and guidance, Marketing management and Knowledge on subsidies, government schemes, support agencies and other linkages. Therefore, to improve the effectiveness of training, the KVKs must stress more on these topics. Hence, reorientation of the syllabus according to the need expressed by the trainees would increase the effectiveness. This was in line with the findings of Dubey *et al.* (2007) [1].

Table 5: Training effectiveness based on perceived benefits of training content

Sl. No.	Training content (coverage of topics)	Degree of perception					
		SA	A	D	TS	EPR	TES
1	Production technology	89	11	0	189	0.945	94.5
2	Manufacturing techniques of different products	83	17	0	183	0.915	91.5
3	Knowledge on new technology	64	36	0	164	0.82	82
4	Quality control and management	48	48	4	144	0.72	72
5	Entrepreneurial motivation, business opportunities and guidance	50	43	7	143	0.715	71.5
6	Financial management and credit support	80	20	0	180	0.9	90
7	Marketing management	51	41	8	143	0.715	71.5
8	Knowledge on subsidies, government schemes, and support agencies	40	48	12	128	0.64	64
	Average	63.12	33	3.87	159.25	0.79	79.62

Perceived overall effectiveness of EDP training of KVKs

It can be observed from the Table 6 that out of the four dimensions taken, the total effectiveness score for the factor of perceived teaching quality was 81.75, followed by training output (80), coverage of topics (79.62) and physical facilities (76). Further, it could be observed that the overall training effectiveness score of the EDP training programmes was worked out to be 79.45. The results revealed that the trainees of the KVKs were satisfied with the training output, quality of teaching and coverage of topics. However, the trainees perceived that the physical facilities provided by the KVKs were not sufficient.

Table 6: Perceived overall effectiveness of EDP trainings of KVKs (N=100)

Sl. No.	Dimensions training effectiveness	Training effectiveness score
1.	Training output	80
2.	Training quality	81.75
3.	Physical facilities	76
4.	Coverage of topics	79.62
	Overall effectiveness score	79.45

Comparison of perceived effectiveness scores of KVK EDPs

Non-parametric Kruskal-Wallis H test was used to determine whether any difference lies between the selected KVKs regarding the perceived training effectiveness scores of their respondents. Kruskal-Wallis test statistics presented in Table 7 showed that there was no significant difference between the EDP effectiveness of selected KVKs.

Table 7: Kruskal-Wallis test statistics for perceived effectiveness scores

Test statistics	Values
Chi-Square	3.996
df	4
p value	0.407

Perceived effectiveness was also compared based on mean ranks obtained in the analysis using Kruskal-Wallis H test depicted as Table 8. The results from the table showed that the KVK Kottayam and KVK Alappuzha had the highest scores of were 57.78 and 56.08respectively. The mean rank score for NGO KVK, Trivandrum was 48.80. Mean ranks scores for KVK Malappuram and KVK Kasaragod were 47.65 and 42.20 respectively. Thus the mean rank was highest for KVK Kottayam (KAU KVK) followed by KVK Alappuzha (ICAR KVK). However, the p value 0.391 which was less than the $\chi 2$ value of4.116 indicated that there was no significant difference in the training effectiveness among the KVKs based on the mean scores.

Table 8: Mean ranks of KVKs based on perceived effectiveness scores

Sl. No.	Name of KVK	Sample size (n)	Mean Rank
1.	KVK Trivandrum	20	48.80
2.	KVK Alappuzha	20	56.08
3.	KVK Kasaragod	20	42.20
4.	KVK Kottayam	20	57.78
5.	KVK Malappuram	20	47.65
	TOTAL	100	
$\chi 2$= 4.116, p value=.391, df=4			

Correlation between personal traits of trainees and their training effectiveness

In order to ascertain the relationship between the selected independent variables and the training effectiveness correlation coefficient was used and the findings are presented in Table 9. The 'r' values indicated significant correlation of training effectiveness with all selected variables except marital status, family type and family size. There was significant and positive relation between the variables educational status, land holding, annual income, extension contact, mass media exposure, innovativeness, achievement motivation, decision making ability, risk orientation, self-confidence, cosmopoliteness, economic motivation and training effectiveness at 5% level of significance. Age also recorded positive correlation with training effectiveness but at 10% significance level. These findings were found supported with findings of Devi *et al.* (2016) [2]. Though gender and occupational status had significant correlation the direction of relation was negative.

Table 9: Characteristics and correlation coefficients.

Sl. No.	Characteristics	Correlation coefficient(r)
1.	Age	0.25*
2.	Gender	-0.29**
3.	Marital status	-0.14
4.	Family type	0.08
5.	Family size	0.12
6.	Educational status	0.29**
7.	Occupational status	-0.39**
8.	Land holding	0.29**
9.	Annual income	0.76**
10.	Extension contact	0.82**
11.	Mass media exposure	0.69**
12.	Innovativeness	0.79**
13.	Achievement motivation	0.78**
14.	Decision making ability	0.72**
15.	Risk orientation	0.77**
16.	Self confidence	0.81**
17.	Cosmopoliteness	0.70**
18.	Economic motivation	0.83**

*significant at 0.10 and ** at 0.05

Conclusion

The effectiveness of EDP trainings quantified using Training Effectiveness Score (TES) showed that the KVK EDP trainees perceived that the training output, quality of teaching and coverage of topics were effective. However, the physical facilities provided by the KVKs were perceived as not sufficient. This was in line with the findings of Tyagi and Tyagi (2014) [10]. The total effectiveness score under physical facilities ranged from 55 to 92 per cent. The transport and lodging facilities provided during training programme were not satisfactory.

The overall training effectiveness score of the EDP training programmes was worked out to be 79.45. Kruskal-Wallis test performed to compare the perceived effectiveness scores of EDP trainings showed that there was no significant difference among the KVKs in training effectiveness. Independent variables like age, educational status, land holding, annual income, extension contact, mass media exposure, innovativeness, achievement motivation, decision making ability, risk orientation, self-confidence, cosmopoliteness and economic motivation had a positive and significant correlation with training effectiveness. Though considerable efforts are taken in the training, there still remains a lacuna which needs to be filled and the KVKs must re-orient their trainings to improve their effectiveness. This was in line with the findings of Medhi (2017) [5].

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