Plant Archives Vol. 19 No. 2, 2019 pp. 4131-4136 **e-ISSN:2581-6063 (online), ISSN:0972-5210**

ESTIMATING AGRICULTURAL EXTENSION TRAINING EFFICIENCY IN KURDISTAN REGION, IRAQ DURING THE PERIOD OF (2013-2017) FROM THE FARMER TRAINEES' POINT OF VIEWS

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Abstract

The aim of this study was to determine the efficiency of training in many aspects, then to find the differences between the total estimation of training and some variables. The research involved 303 trainees who participated in training courses in all governorates of Kurdistan region during five years (2013-2017). The data were collected through personal interviews. A questionnaire was prepared for this purpose. To confirm the validity, the questionnaire was reviewed by some experts. The reliability coefficient was calculated by Cronbach's Alpha coefficient and its value was (0.81). The results showed that the estimation level of the extension training efficiency by respondents was medium tending to high and the training results estimation occupied the first rank, giving the interesting percent of (88.85%). While the methods of selecting the trainees occupied the last rank recording the interesting percent (80.00%). The results indicated significant differences among (age, social position, number of training courses, extent of training benefit, attitude towards training and job satisfaction). While no significant differences were found among (gender, residence, academic achievement and period of training). The researcher recommended activating the training efforts adopted on the principles of planning, execution and evaluation. There also recommended the adoption of suitable and logical mechanisms to select the trainees for training courses according to their needs and problems during the work, increasing the number of courses with increasing the period of training. The researcher encourages the trainees to participate in training programs and formulating the objectives and training topics.

Key words: Training, Extension training, Efficiency, Extension training efficiency.

Introduction

Keeping up with scientific and technological progress is the true gateway to development, because it's the real gateway to manufacturing the future of the nation, through the experience of its members of this age and search for the best solutions that are hindering development plans, as well investment of their energies and human abilities by the best way (Salah *et al.*, 2010). Human development is of community development such as "expanding people's choices and enhancing their capacities for optimal use for these options, development requires human resources which can accommodate its factors and work to push it towards its desired goals (Siam, 2002). Agricultural extension is a mode by which the latest information is communicated to the farming community. The effective extension services can help in adopting new agricultural technologies which can lead to higher crop yields and more household incomes. In addition, the agricultural extension services can help in reducing poverty levels and ensure household food security especially among small and poor farmers (Ali and Rahut, 2013). Agricultural sector is one of the most productive sectors in the economy of most countries in general especially developing countries. Agriculture plays a key role in raising the living and social standards of the population and is an essential source of national income for the vast majority of the population (Al-Khalidi, 2007). Agricultural development of this sector is necessary and due investigation developed, it depends on two main elements, the physical component of scientific and technical progress in the field of agricultural production and the human element, with its readiness and capabilities to efficiently use of the material

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to achieve agricultural development, including the workers and the farmers, which are the greater source of agricultural development (Al-Ajeeli, 2012). The better educated farmer is quicker to adopt profitable new processes and products since, for him, the expected payoff from innovation is likely to be greater and the risk likely to be smaller (Padhy and Jena, 2015). The majority of experts and specialists in the field of human resources management agree that development and improvement of the human resources is carried out through training process which describes a continuous process that makes the individual adapt to his work (Al-Samarrai, 2002). Training is the foundation of community development because the man power is the main element in the production process and therefore training and rehabilitation are factors that contribute to a significant role in increasing productivity efficiency (Al-Abbassi, 2014). Training is an organizational effort aimed at changing positively the behavior of workers and farmers represented by knowledge, skills and attitudes related to the function or work in order to improve it by an optimal manner that achieves its objectives (Al-Twaijary, 2014). If the training is necessary in all sectors, certainly in the agricultural sector is a more urgent necessity due to the backwardness of the agricultural sector in Iraq and Kurdistan Region. Therefore, training is an urgent necessity for all workers in the agricultural sector whether they are government employees or farmers and rural leaders (Al-Tanubi, 1996). Efficiency of the training is a continuous methodological evaluation of agricultural extension training programs and activities. This evaluation is a phase-out which aims to identify and remedy deficiencies during training activities or a final evaluation aimed at determining the value of the successful activity in its final form (Xarat, 1994). Evaluation is an integral part of the training process, it is a continuous and organized process in training programs to assess the value of this program and make the appropriate decisions to know the success of the program. The effectiveness and efficiency of training programs depends on the impact of the program on the trainees and increase their knowledge and experience (Bn-Aishi, 2012). Despite the training being an active way to achieve efficient functions, its effect will not be accurate if there is no progress to evaluate the outcome. It has been mentioned that there is no possibility to judge the range of the training program benefit and its action without a reasonable evaluation. This evaluation cannot be investigated in the absence of clear principles and evaluation standards (Swailim, 1998). Efficiency of the training is the degree of experience gained by the trainees from the exercise of training activity with significant gains, measured by comparing the output of the activity cost in terms of human resources (Raab *et al.*, 1991). Despite the importance of measuring the efficiency of agricultural extension training programs for agricultural extension workers, however it has not received enough attention from officials or institutions concerned with agricultural extension training. So it became important to evaluate the efficiency of training programs for agricultural extension workers through trainee's in their workplaces in advance in order to evaluate the validity of various aspects of the process of training for the needs and the factual circumstances of the trainees and determine the extent of their abilities to perform outreach activities that trained them after their return to their field (Raadi, 2003). The extension organization has increased the training investment from its budget practicing several efforts and experiences in the program preparation and implementation. The money spent in the training investment considered as an input of the extension organization. Hence, the benefit, outcomes of this project and the performance of production development levels have to be evaluated to determine the effect of inputs on the incomes achievement (Al-Mashhadani, 2006).

From the previous display, the research problem formulated through the following questions:

1. What is the estimate degree of the extension training efficiency from the farmer trainee's point of views of the various aspects in general?
2. What is the estimate degree of the extension training efficiency from the farmer trainee's point of views in each aspect of the training programs in terms of (training objectives, methods of selecting the trainees, time and period of training, trainers capabilities, training content, methods and means of training, facilities and capabilities for training?
3. What are the differences in extension training efficiencies according to some characteristics of the trainees such as (age, gender, residence, academic achievement, social position, number of the training courses, duration of the training courses, training benefits, attitude toward training, job satisfaction and problem resolving ability)?

Research objectives

This research aimed at estimating the efficiency of extension training in all governorates (Duhok, Erbil, Sulaymaniyah and Garmian) in Kurdistan region-Iraq through the following sub-objectives:

1. To estimate the degree of extension training efficiency from the farmer trainee's point of views in general.
2. To estimate the degree of extension training efficiency

Table 1: Distribution of the population and samples of the study.

City	Population	Sample	Percentage
Duhok	618 Sosna	60	9.71%
	312 Bagirat	28	8.96%
Erbil	726 Qushtapa	76	10.46%
	516 Dashty Hawler	53	10.27%
Sulaymaniyah	362 Sharbazher	34	9.39%
	371 Sharazor	39	10.51%
Garmian	56 Kalar	6	10.71%
	69 Khanaqeen	7	10.14%%
Total	3030	303	10%

Table 2: Total estimation of extension training efficiency.

Levels of total estimate	Frequency	Percentage	Mean of estimate
Low (139 – 172) degree	24	7.9%	159.54
Medium (173 – 206) degree	142	46.9%	194.25
High (207 – 240) degree	137	45.2%	220.39
Total	303	100%	

Minimum = 139, Maximum = 240,
Standard Deviation = 20.35, Mean = 203.33

from the farmer trainee's point of views in each aspect in terms of (training objectives, method of trainees selection, time and period of training, capabilities of the trainers, scientific content of the training, methods and means of training, facilities and capabilities available for training).

3. To determine the differences in estimating the efficiency of extension training according to some characteristics of the trainee's such as (age, gender, residence, academic achievement, social position, number of the training courses, duration of the training courses, training benefits, attitude towards training, job satisfaction, and problem resolving ability).

Materials and Methods

A descriptive approach was used to conduct this study, taking in consideration the following spans:

1. Geographical span**:** This research conducted in all governorates of Kurdistan region-Iraq (Dohuk, Erbil, Sulaymaniyah and Garmian).

Human Span: The research population included the farmers whom participated in the training courses during (2013-2017), they were (3030) respondents spread over (8) centers. The sample of respondents 10% of the population, which consisted of (303) respondents taken by a simple random sampling method, as shown in (Table 1).

The data was collected through a questionnaire consisted of two parts:

First part: Included a number of questions related to the independent variables such as age, gender, academic achievement, residence, social position, number of the training courses, duration of the training courses, training benefits, attitude towards training, job satisfaction.

Second part: Estimating of extension training efficiency: This part included eight aspects for estimation (objectives, time and duration, selection of trainees, trainers, contents, methods and means of training, facilities and equipment, results), comprising of 80 items as follows (10, 11, 8, 14, 12, 10, 8 and 7), respectively. The alternatives of achievement levels (weak, fair, Good) were detected with the values of (1, 2, 3), respectively. The determination of training evaluation is the sum of values assigned to items that range between (80-240) scores.

Reliability was measured through the exploratory sample of 30 respondents between (Aug. 15-28th, 2018) using Cronbach's Alpha method. This method has been used to estimate the reliability of the attitudes and polls, this method gives the minimum value of the estimated coefficient of reliability (Al-Abbassi, 2018), the reliability coefficient was (0.812) degree. It is appeared that the scale had a mean value above 0.70 which is indicating to a high reliability.

After data collection period (Sept.10th-Nov.27th, 2018) the data were arranged and classified before analyzing with SPSS application. The statistical methods used in the analysis were frequency, percentage, arithmetic means, standard deviation, simple correlation coefficient (Pearson), t-test and F test.

Table 3: Arranging extension training aspects according to their efficiency from the trainees' point of views.

No.	Training Aspects	Min. Value	Max. Value	Mean Value	Standard Deviation	Efficiency Percentage	Rank
8	Training results	7	21	18.66	2.74	88.85%	1
4	Ability of trainers	23	42	36.74	3.92	87.47%	2
2	Timing and duration	14	33	28.05	3.64	85.00%	3
6	Methods and means of training	15	30	25.44	3.43	84.80%	4
7	Facilities and possibilities	10	24	20.25	3.09	84.37%	5
5	Training content	19	36	30.34	3.69	84.27%	6
1	Training objectives	13	30	24.61	3.56	82.30%	7
3	Method of selection of the trainees	8	24	19.20	3.16	80.00%	8

Table 4: Differences in training efficiency according to some variables.

Variables	Categories	Frequency	Percentage	Means estimate	t value F value	Sig.	Duncan coefficient
Age/ years	19 - 38	112	37.0%	200.27[b]	F (3.70)	(0.026)*Sig.	
	39 – 58	151	49.8%	203.73[b]			
	59 - 78	40	13.2%	210.32[a]			
Gender	Male	210	68.3%	204.41	t (1.38)	(0.63)NS	
	Female	93	30.7%	200.89			
Residence	District	61	20.1%	202.47	F (2.33)	(0.098)NS	
	Sub-district	25	8.3%	195.36			
	Village	217	71.6%	203.32			
Academic achievement	Illiterate	80	26.4%	205.80	F (1.73)	(0.114)NS	
	Reads and writes	50	16.5%	199.32			
	Primary	86	28.4%	204.54			
	Intermediate	36	11.9%	204.75			
	High school	34	11.2%	201.23			
	Diploma	7	2.3%	212.14			
	Bachelor	10	3.3%	189.00			
Social position	0	119	39.2%	200.47[b]	F (3.42)	(0.009)*Sig.	Duncan's Coefficient
	1	65	21.5%	200.33[b]			
	2	62	20.5%	210.64[a]			
	3	32	10.6%	202.03[a b]			
	4	25	8.2%	208.12[a b]			
Number of training	1 - 2	231	76.2%	201.35[b]	F (4.72)	(0.010)**Sig.	Duncan's Coefficient
	3 - 4	60	19.8%	209.33[a]			
	5 - 6	12	4.0%	211.25[a]			
Duration of training	2 - 14	235	77.6%	204.06	F (0.74)	(0.47)NS	
	15 - 27	54	17.8%	200.38			
	28 - 40	14	4.6%	202.14			
Extend of training benefit	1 - 5	183	60.4%	199.40[b]	F (6.32)	(0.000)**Sig.	Duncan's Coefficient
	6 - 10	100	33.0%	209.41[a]			
	11 - 15	18	5.9%	207.16[a]			
	16 - 20	2	0.7%	222.00[a]			
Attitude towards training	Low (16-22)	2	0.7%	179.50[b]	F (17.13)	(0.000)**Sig.	Duncan's Coefficient
	Medium (23-29)	37	12.2%	186.83[a b]			
	High (30-36)	264	87.1%	205.81[a]			
Job satisfaction	Low (10-14)	18	5.9%	192.77[b]	F (17.39)	(0.000)**Sig.	Duncan's Coefficient
	Medium (15-19)	216	71.3%	200.50[b]			
	High (20-24)	69	22.8%	214.91[a]			
Problem resolving ability	Low (10-16)	7	2.3%	180.14[c]	F (42.09)	(0.000)**Sig.	Duncan's Coefficient
	Medium (17-23)	106	35.0%	191.92[b]			
	High (24-30)	190	17.3%	210.53[a]			

Results and Discussion

1. To determine the total estimate degree of extension training efficiency in general. The respondents were classified into three categories as shown in table 2.

It is appearing from (Table 2) that nearly (46%) of the trainees perceived the efficiency of extension training as medium toward high. This value is promising as indicating the comprehensive plan and a good performance and efforts had been put forth by the staffs of training departments at the agricultural extension in Kurdistan region during their organizing of the training courses. This indicates that the training programs led to a positive impact and on the requirement level for the trainee's for all aspects of training satisfactory.

2. To determine the estimate degree of extension training efficiency in each aspect. The estimated aspects were arranged according to the level of their achieving, as

described in (Table 3).

3. To determine the differences in extension training efficiency according to some characteristics of the trainees: t-test and analysis of variance were used to determine the differences between the total estimation of extension training efficiency (as a dependent variable) and some independent variables.

Conclusions

1. The study results estimated that (92%) of the respondents were described as medium tending to high. We conclude that the efforts of training centers have safe planning and performance in holding the training courses.
2. The aspect of results estimation occupied the first rank. We can conclude that the results of training is the most important consideration in their views and benefit that gained from the application of what they have learned, as well as the ability of trainers occupied the second rank, we conclude that the agricultural extension training organizations were able to select the suitable staff and specialists in the training activity precisely, then those have an experience (lecturers and other academic staff) at the universities in a logical and scientific way. While the method to selection the trainees to training courses occupied the final rank, concluding that the selection might be not knowing whom are in need to training or there is no scientific method to analyses of the training needs of the trainees.
3. The age was ascribed to the difference of estimation of extension training efficiency, we can conclude the older age led to more access to information, skills and experience from training courses, also academic achievement is not related to estimation, we conclude that training subjects that may be new to the trainees, as well the gender not related to estimation, we conclude that there is a consideration for both genders to participate in the training courses as well as the choice of subjects for them. Social position is related to the estimation, we conclude that who participated appropriately in a number of social positions, it will affect to benefit the extent of the training courses. Number and period of training courses were affected in estimation, we conclude that increasing the number of training courses as well as extending their duration may possibly lead to increased utilization of training activities and we conclude that the positive attitude towards training increases the conviction of training, any increase in job satisfaction creates a suitable economic and social environment for trainees in training courses and the increased ability to solve problems may be due to the application of the contents of training programs.

Recommendations

1. Depending on the results, the training programs of agricultural extension departments have to focus on the activating the training efforts according to the scientific principles of planning, execution and evaluation.
2. Creating the reasonable mechanism for the trainee's selection process by extension organization for the training courses and taking in consideration the training needs and the problem they are facing during the work.
3. Increasing contribution of the trainees in formulating and setting training objectives and content convenient and parallel to their personal and scientific abilities.
4. More attention by the extension departments to the farmers regardless to their gender or academic achievement or residence.
5. Focusing on increasing farmer's attitudes and satisfaction, as well creating appropriate environment to work by agricultural extension organizations.

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