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Evaluation of Trainers' Training programme on Scaling up of Water Productivity in Agriculture

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ABSTRACT

The study was an attempt to evaluate the impact of 14 days trainers' training programme on judicious use of irrigation water in agriculture and horticultural crops under the project "Scaling up of water productivity in agriculture for livelihood through teaching cum demonstration" sponsored by Ministry of Agriculture, Government of India and was organized by Agricultural Research Station, Sriganganagar from 14.09.2011 to 27.09.2011. It was attended by 26 male participants consisting of extension personnel and subject matter specialists with the objective to create trained manpower for efficient use of limited irrigation water in agricultural and horticultural crops. A well structured interview scheduled was developed and used. The study revealed that majority of the trainees was above 40 years of age having 10 to 20 years of service experience. After undergoing this training, there was a knowledge gain of 44.23 per cent. The trainees perceived the topics related to crop and water management as highly relevant (80 %). Overall, 63.30 per cent of the topics were perceived as highly relevant by the trainees followed by 27.1 per cent topics which were perceived as quite relevant and useful. All the trainees (100 %) agreed that their knowledge had increased .The level of increased was varied. They opined that during the training the learning environment was excellent and reported that their confidence level has increased (78%) and satisfied with the duration of the training. More than half (58%) of the trainees agreed that they have developed new skills by attending the training. Overall, 82.8 per cent of the trainees were agreed on various aspects of training programme followed by 11.1 per cent which were neutral and 6.1 per cent were disagreed with the organization of the training programme.

Key words: Training, water management, knowledge, aspects of training

INTRODUCTION

Human resource development has become the priority area in developed and developing countries. Training of personnel is the major activity undertaken in human resource development. Training is a process by which individuals are helped to acquire certain specific skills related to given set of operations. The importance of training as an indispensable instrument for human resource development can not be overemphasized. It aims at helping each individual reach his maximum potential by way of increased knowledge, improves skills and changed attitudes, enabling him to perform his job predictably according to established standards. Training is the process by which an individual's efficiency and effectiveness in the given context of a job can be maximized (Singh, 1996).

Evaluation is a process of systematic appraisal by which we determine the worth of value or meaning of some thing. In reference to training it is the measurement of extent to which the training programme achieves what set out to achieve. Evaluation is therefore an attempt to measure how desired goals are achieved. It is an attempt to obtain information (feedback) on the effect and impact (actual, possible or potential) of training programme and as to assess the value of the training. Thus, evaluation is an integral part of the overall training management process (Bhatnagar 1996). Evaluation provides information for decision concerning future training programme. This information is highly useful in fine-tuning the training programme and communicate important facts to concerned individuals/group or agencies. Besides, evaluation is useful for formal results (Singh *et al.*2007). Keeping the above facts in view, the present study “Evaluation of trainers' training programme on judicious use of irrigation water in agricultural and horticultural crops' was undertaken.

METHODOLOGY

Water Management Scheme at Agricultural Research Station, Sriganganagar organized a 14 days training programme on judicious use of irrigation water in agricultural and horticultural crops under the project 'Scaling up of water productivity in agriculture for livelihood through teaching cum demonstration' during 14.09.2011 to 27.09.2011. The main objective of the training was to create trained manpower in agriculture with emphasis on water management. The topics for the training programme were chosen very appropriately in light of the objectives of the funding agency to enhance agricultural productivity with efficient utilization of limited irrigation water. The 26 trainees, who participated in the training, comprised of agricultural extension officials from State Department of Agriculture,

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Sriganganagar and Hanumangarh districts and Subject Matter Specialists from Krishi Vigyan Kendras. Keeping in view the objectives of the study, a well structured interview schedule was developed through which information were collected on trainees background, extent of fulfillment of expectations, training effectiveness, relevance of course content and opinion of trainees about training programme. The responses were collected from the trainees through personal interview before and after the completion of the training programme. The collected information were tabulated and analyzed with suitable statistical techniques.

RESULTS AND DISCUSSION

The results of the study have been presented in the following table on various aspects of the training programme.

A. Background of trainees

Table 1 presents the brief particulars of the trainees who attended the 14 day's training programme at ARS, Sriganganagar. They belonged to State department of Agriculture, Sriganganagar and Hanumangarh districts and Krishi Vigyan Kendras of SKRAU, Bikaner. The group was heterogenous in respect of age, education, designation and service experience. Majority (69.23%) of them were above 40 years of age where as 30.77 per cent were below 40 years of age. In respect of educational qualification, majority (84.61%) were graduate or 12th class in agriculture while trainees from KVKs have higher qualification as M.Sc. and Ph.D in agriculture. Majority (65.38 %) of trainees are working as Agricultural Supervisors where as 19.24 per cent are Assistant Agricultural Officers and 15.38 per cent are working as Subject Matter Specialist in Krishi Vigyan Kendras. More than half (57.65 %) of the trainees serving the agricultural department between 10 to 20 years where as 23.08 per cent have more than 20 years of working experience and 19.24 per cent of the trainees having less than 10 years of service experience.

Table 1: Background information of the trainees

n=26

Variables	Categorization	Frequency	Percentage
Age (in years)	Below 40 years	8	30.77
	Above 40 years	18	69.23
Gender	Male	26	100.00
	Female	0	-
Education	12th Class/B.Sc.(Ag.)	22	84.61
	M.Sc.(Ag.)	2	7.70
	Ph.D	2	7.70
Designation	Agril.Sup.	17	65.38
	AAO	5	19.24
	SMS	4	15.38
Service Experience (in years)	Below 10 years	5	19.24
	Between 10-20 years	15	57.65
	Above 20 years	6	23.08

B. Knowledge gained by the trainees

The information collected from trainees was analyzed to find out the knowledge on various aspects of water management technologies. Table 2 depicts that pre training knowledge of the trainees were 41.86 per cent and had an actual gain of 44.23 per cent. The trainees had only 14.17 per cent knowledge gap at the completion of the training as compared to 58.14 per cent before the training started. This implies that most of the trainees of the training programme gained knowledge from the training programme.

Table 2: Gain in knowledge of the trainees

n=26

Particulars	Knowledge	Mean	Percentage
Knowledge before training	Score (A)	12.56	41.86
	Gap (B)	17.44	58.14
Knowledge after training	Score (C)	25.75	85.83
	Gap (D)	4.25	14.17
Knowledge gain	(B-D)	13.19	44.23

The gain in knowledge to this extent shows the importance of the organization of the training in this vital field of agriculture. The findings of the study were in line with the study of Nirmal Kumar and H.S.Biswas (2005) and J.S.Minhas *et al.* (2010). They reported gain in knowledge of the participants after the training programme.

C. Relevance of course content (topics) covered

During the training programme a total 22 broad topics (items) pertaining to relevance of training objectives was administered to trainees on five point continuum *viz*. highly relevant, quite relevant, relevant, somewhat relevant and not relevant with score 5, 4, 3, 2, 1 respectively. It was interesting to know none of the respondents elicited their response on some what relevant and not relevant continuum. Hence, these two continuums were omitted. The results depicted in the table 2 showed that topics such as drip irrigation in American cotton (86%), water management in wheat (85%), IPM (88%), fertilizer management (86%) and INM in crops (81%) were perceived as highly relevant by the trainees.

The topics such as climate change (54%), plant breeding for water efficiency (50 %), soil testing (46%), PRA in water management (55%), ICTs in agriculture (50%), Ground water judicious use (50%) and measuring irrigation water (42%) were perceived as quite relevant by the trainees. Whereas some of the topics like Ground water judicious use (23%), measuring irrigation water (19%), fertigation through drip (19%) were also perceived as relevant by trainees.

Overall, it could be inferred that majority of the topics (63.30 %) were perceived as highly relevant by the trainees followed by 27.10 per cent topics perceived as quite relevant and useful. However, few topics (9.60 %) were considered as relevant by the participants trainees. The results are in conformity with the findings of J.S.Minhas *et al.,* 2010, who reported same trends in their studies on evaluation of trainer's training programme.

Table 3: Distribution of trainees according to relevance of course contents

n=26

Particulars of course contents of training	Highly Relevant		Quite Relevant		Relevant	
	f	%	f	%	f	%
Climate change and its impact on Indian agriculture	10	39	14	53	2	8.00
Drip irrigation in American cotton	21	81.00	4	15.00	1	4.00
Drip irrigation in Vegetables crops	18	69.00	5	19.00	3	12.00
Fertigation in drip irrigation	17	65.00	4	15.00	5	19.00
Integrated pest Management in crops	23	88.00	3	12.00	-	-
Suitability of irrigation methods for different crops	20	77.00	5	19.00	1	4.00
Plant breeding for higher water efficiency	10	39.00	13	50.00	3	11.00
Role of micronutrients in crop production	18	69.00	6	23.00	2	8.00
BT cotton for higher water use efficiency	17	66.00	6	23.00	3	11.00
Importance of soil testing in crop production	11	42.00	12	47.00	3	11.00
Quality of irrigation water	20	77.00	2	8.00	4	15.00
Plant disease management for higher water productivity	15	58.00	7	27.00	4	15.00
Water management techniques for horticultural crops	24	92.00	2	8.00	-	-
Participatory rural Appraisal for efficient water management	10	39.00	14	55.00	2	8.00
Fertilizer management for higher crop production	22	86.00	3	12.00	1	4.00
Disease management vegetable crops	19	73.00	4	15.00	3	12.00
Water management practices for higher productivity in wheat	22	85.00	4	15.00	-	-
Bio-pesticides for insects and diseases management	15	58.00	7	27.00	4	15.00
Integrated nutrient Management for higher	21	81.00	3	11.00	2	8.00
Information and communication Technologies (ICTs) for enhancing water productivity	12	46.00	13	50.00	1	4.00
Ground water management for higher crop yields	7	27.00	13	50.00	6	23.00
Measuring irrigation water for judicious use	10	39.00	11	42.00	5	19.00
Total	**362**	**63.30**	**155**	**27.10**	**55**	**9.60**

f= No. of farmers, %= Percentage

D. Opinion of trainees on various aspects of training

A perusal of the data given in the Table 3 depicts that all the trainees (100%) agreed that their knowledge has increased after attending the training. They expressed that that during the training the learning, boarding and lodging management and behaviour of staff was excellent. Besides, they were satisfied that the time was best utilized, lectures were participatory and there was a perfect balance between theory and practical. Trainees were also satisfied with the behaviour of trainers and this also leads to change in their attitude. Majority of the trainees (78%) were satisfied with the duration of training and opined that the training programme have increased their confidence level (78%) and satisfied with daily routine (82%). More than half (58%) of the trainees agreed that they have developed new skills by attending the training. However, one third of the trainees (31%) were undecided /neutral that the training had improved their job efficiency and developed new skills (27%). Similar findings were reported by Kumar *et al.* (2005) and J.S.Minhas *et al.* (2010).

Overall, 82.8 per cent of the trainees were agreed on various aspects of training programme followed by 11.1 per cent undecided (neutral) and 6.1 per cent were disagreed with the way the training was organized. It May be inferred from the above responses of the trainees that the training was effectively conducted and fulfill the information and technological needs of the participants.

Table 4: Opinion of trainees on different aspects of training

n=26

Opinion	Agree		Undecided		Disagree	
	f	%	f	%	f	%
Increased knowledge	26	100.00	-	-	-	-
Change attitude	22	86.00	2	7.00	2	7.00
Develop new skills	15	58.00	7	27.00	4	15.00
Improve job efficiency	16	62.00	8	31.00	2	7.00
Use of various A.V.a ids enhanced learning	12	46.00	8	31.00	6	23.00
Best utilization of time	24	92.00	1	4.00	1	4.00
Boarding and lodging was excellent	26	100.00	-	-	-	-
Deliberations were participatory	22	85.00	3	11.00	1	4.00
Optimum training duration	20	78.00	2	7.00	4	15.00
Perfect balance between theory and practical	24	92.00	1	4.00	1	4.00
A good learning experience	22	85.00	4	15.00	-	-
Excellent learning environment	26	100.00	-	-	-	-
Comfortable daily routine	21	82.00	2	7.00	3	11.00
Level of training was high	20	78.00	4	15.00	2	7.00
Experience trainers	24	92.00	1	4.00	1	4.00
Behaviour of supporting staff was good	26	100.00	-	-	-	-
Increase confidence level	20	78.00	6	22.00	-	-
Total	**366**	**82.8**	**49**	**11.1**	**27**	**6.1**

% = Percentage, f = No. of participants

CONCLUSION

The training organized under scaling up of water productivity by water management scheme of ARS, Sriganaganagar has been effective as perceived by the trainees. All the participants were belonged to extension agencies are directly responsible for disseminating agricultural information and techniques to the farmers. Level of knowledge was increased by 44.23 per cent after the training programme. The topics covered in the training were highly relevant (63.30 %). as perceived by the trainees. The trainees perceived that water is the most precious input for agriculture and the knowledge gained through the training will surely help them to motivate farmers for judicious use of available irrigation water. Majority (82.8 %) of the trainees agreed that training was successful and has boosted their confidence level. The training has achieved its aim to developed human resource persons as trainers in the area of water management. Overall, the trainees revealed that the training was well executed well satisfying the information need and requirement of the participants. It was assured by the trainees to the organizers that they will transfer the knowledge gained in the training to the farmers of their service area.

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