

EVALUATION OF TRAINERS' TRAINING PROGRAMME ON SCALING UP OF WATER PRODUCTIVITY IN AGRICULTURE FOR LIVELIHOOD THROUGH TEACHING CUM DEMONSTRATION

J.S. Manhas*, N.K. Gupta**, K.L. Dangi***, V.P. Sharma**** and A.P. Singh*****

ABSTRACT

The study was an attempt to evaluate the impact of 14 days trainers' training programme on "Scaling up of Water Productivity in Agriculture for Livelihood through Teaching cum Demonstration" sponsored by Ministry of Agriculture, Government of India, organized by Water Management Research Centre (WMRC), Faculty of Agriculture, Chatha of Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu (SKUAST-J) in collaboration with Krishi Vigyan Kendra, Rajouri, SKUAST-J w.e.f. June 25th –July 8th, 2009. It was conducted among 25 in-service male candidates (7 Agriculture Extension Officers, 8 Subject Matter Specialists and 10 Junior Agriculture Assistants) of State Department of Agricultural Production with the objective to create a trained manpower in agriculture sector. A well structured interview schedule was devised to collect the information about trainees' background, extent of fulfillment of expectations, training effectiveness, level of confidence, relevance of course contents, utility of topics covered and opinion of trainees about training programme. Collected information was analyzed with suitable statistical techniques. The study revealed that majority of the trainees was above 42 years of age, had service experience of more than 18 years and were Masters in Agriculture. Nearly three-fourth (72 percent) of the participants expressed that their expectations were extremely met by attending the training programme. 80 percent of the trainees felt that the training programme was highly effective whereas, 84 percent of the participants developed high level of confidence after training. Besides, majority of the topics covered in the training programme were perceived as highly relevant and most useful by the trainees. All the participants agreed that their knowledge has increased by participation in training; training has perfect balance between theory and practical and time was fully and best utilized in training. 100 per cent trainees opined that attending training was a good learning experience and trainers had rich knowledge about subject matter. Moreover, they were fully satisfied by tea, lunch and sitting arrangements.

INTRODUCTION

Training of extension functionaries is one of the important activities in transfer of farm technologies. It primarily addresses the capacity building issues of the extension system. The effectiveness and productivity of training programmes are crucial for achieving the desired results. Training is the process of acquiring specific skills to perform a job better (Jucious, 1963). It helps people to become qualified and proficient in doing some jobs (Dahama, 1979). Usually, an organization

facilitates the employees' learning through training so that their modified behaviour contributes to the attainment of the organization's goals and objectives. Van Dorsal (1962) defined training as the process of teaching, informing or educating people so that they may become as well qualified as possible to do their job efficiently and perform in positions of greater difficulty and responsibility. In-service training, on the other hand, is offered by the organization from time to time for the development of skills and knowledge of the incumbents (Halim and Mozahar, 1997).

* Jr. Scientist, Agricultural Extension Education, RARS, SKUAST-J, Rajouri, 185131

** Senior Scientist, Water Management Research Centre, FOA, Chatha, SKUAST-J

*** Head, Deptt. of Extension Education, RCA, MPUAT, Udaipur, Rajasthan, 313001

**** Ex. Head, Deptt. of Extension Education, RCA, MPUAT, Udaipur, Rajasthan, 313001

***** Subject Matter Specialist, Agronomy, KVK, Rajouri, SKUAST-J, 185131

Evaluation is an in-built mechanism in extension and training system. It serves as a tool for efficient operation of training programmes by providing feedback. It assists for taking corrective measures by the course/training coordinator for effectiveness of training programmes (Kumar *et al.*, 2005). The main purpose of evaluation is to improve the quality of a training programme/project by identifying its strengths and weaknesses. Evaluation helps us to find out the impact of training programme on trainees. In other words, evaluation helps answering these questions, viz., How did the trainees react? What did they achieve? Was the training programme worth for the time, money and resources? Should this training programme be continued or terminated? Evaluation provides information for decisions concerning future training programmes. This information is highly useful to fine tune the training programme and is used to communicate important facts to concerned individuals/groups or agencies. Besides, evaluation results are useful for formal reporting (Singh *et al.*, 2007). Keeping the above facts in view the present study "Evaluation of trainers' training programme on scaling up of water productivity for livelihood through teaching cum demonstration" was undertaken.

RESEARCH METHODOLOGY

Water Management Research Centre, Faculty of Agriculture, Chatha, Sher-e-Kashmir University of Agriculture Sciences and Technology of Jammu in collaboration with Krishi Vigyan Kendra, Rajouri organized fourteen days Trainers' Training

Programme on "Scaling up of Water Productivity in Agriculture for Livelihood through Teaching cum Demonstration" w.e.f June 25th- July 8th, 2009 with financial assistance from Ministry of Agriculture, Government of India through Indian Council of Agricultural Research, New Delhi. The main objective of the training was to create trained manpower in agriculture sector. 25 trainees who participated in the training programme were selected as respondents. The trainees who participated in the training programme were Agriculture Extension Officers (AEOs), Subject Matter Specialists (SMSs) and Junior Agriculture Assistants (JAAs) of State Department of Agricultural Production, Jammu. Keeping in view the objective of the study, a well structured interview schedule was prepared. The topics were chosen very appropriately in the light of Union Government's commitment to improve agricultural productivity per drop of water. For data collection, trainees were interviewed personally. Thereafter, data were analyzed, tabulated and interpreted in the light of objective of the study.

RESULTS AND DISCUSSION

Participants' background

The participants were Agriculture Extension Officers, Subject Matter Specialists and Junior Agriculture Assistants of State Department of Agricultural Production. The group was heterogeneous in respect of their age, education, designation and service experience. The data in Table 1 show that all the participants (100 per cent) were male. Majority (56 per cent) of the participants

Table 1. Participants' background

(n=25)

S.No.	Variable	Categorization	Frequency	Percentage
1.	Age (in years)	Below 42.64	11	44
		Above 42.64	14	56
2.	Gender	Male	25	100
		Female	—	—
3.	Education	B.Sc. (Ag.)	12	48
		M.Sc. (Ag.)	13	52
4.	Designation	Junior Agriculture Assistants (JAAs)	10	40
		Subject Matter Specialist (SMSs)	8	32
		Agriculture Extension Officer (AEOs)	7	28
5.	Service Experience (in years)	Below 18.64	10	40
		Above 18.64	15	60

n = No. of participants

were above 42 years of age whereas, 44 per cent were below 42 years of age. 52 per cent of the participants were M.Sc. (Ag.) while, 48 per cent of them were B.Sc. (Ag.). Majority (40 per cent) of the trainees were Junior Agriculture Assistants whereas, 32 per cent were Subject Matter Specialists and 28 per cent were Agriculture Extension Officers. Exactly 60 per cent of the trainees had service experience of above 18 years whereas, 40 per cent had below 18 years of service experience.

Fulfillment of Expectations

Expectations, here, refers to the desire of the trainees to acquire new knowledge and skills about watershed management. Trainees were asked to elicit their responses on five point continuum viz. extremely met, fairly met, satisfactorily met, met to some extent and not met with score 5,4,3,2 and 1 respectively.

Table 2. Distribution of respondents according to their extent of fulfillment of expectations (n=25)

S.No.	Extent of fulfillment of expectations	Respondents Frequency Percentage
1.	Extremely met	18 72.00
2.	Fairly met	5 20.00
3.	Satisfactorily met	2 8.00
4.	Met to some extent	—
5.	Not met	—
Total		25 100.00

n = No. of participants

The data presented in Table 2 reveal that nearly three-fourth of the respondents (72 per cent) felt that their expectations were extremely met by attending the training programme. Exactly one-fifth (20 per cent) of the respondents were felt that their expectations were fairly met. However, only 2 (8 per cent) respondents perceived that their expectations were satisfactorily met. It is interesting to note that none of the trainees felt that their expectations were met to some extent and not met by attending training. Similar findings were reported by Koshti and Vijayaragavan (2007).

Level of Confidence

Confidence provides impetus for achieving objectives. Also, confidence is the resultant of gain

in knowledge i.e. confidence comes with knowledge. They were asked to state whether they developed confidence after training or not. For knowing the confidence level of trainees, their responses were recorded on four point continuum viz. high confidence, medium confidence, low confidence and no confidence with score 4,3,2, and 1 respectively.

The data incorporated in Table 3 reveal that majority of trainees (84 per cent) expressed that they have developed high level of confidence by attending training. However, only 16 per cent of them felt that they have developed medium level of confidence. It is interesting to note that none of the participants expressed low confidence and no confidence.

Table 3. Distribution of respondents according to their level of confidence (n=25)

S.No.	Level of confidence	Respondents Frequency Percentage
1.	High confidence	21 84
2.	Medium confidence	4 16
3.	Low confidence	—
4.	No confidence	—
Total		25 100.00

n = No. of participants

The high confidence level of the trainees was due to the fact that the training programme was well planned and organized effectively. Training had a perfect balance of teaching, practical exercises and field visits to a watershed. The field visits to a watershed provided a first hand experience to the trainees. All these factors enhanced learning of trainees and, therefore, raised their confidence level. Similar findings were reported by Koshti and Vijayaragavan (2007).

Training effectiveness

Training effectiveness refers to the impact of training programme. In other words, training effectiveness means gain in knowledge, increase in confidence level, increase in self motivation, gain in understanding and development of positive attitude and skill. For measuring training effectiveness, the trainees were asked to give their responses on four point continuum viz. highly

effective, effective, less effective and not effective with score 4, 3, 2 and 1 respectively.

Table 4. Distribution of respondents according to their level of training effectiveness (n=25)

S.No.	Level of training Effectiveness	Respondents Frequency	Percentage
1.	Highly effective	20.80	
2.	Effective	5.20	
3.	Less effective	—	
4.	Not effective	—	
Total		25	100.00

n = No. of participants

It is evident from Table 4 that majority (80 per cent) of trainees perceived that training programme was highly effective. However, only 20 per cent respondents felt that training was effective. Interestingly enough, none of the trainees expressed that training was less effective and not effective. This might be due to increase in their level of confidence as evident from Table 3. Similar findings were reported by Koshti and Vijayaragavan (2007).

Relevance of Course Contents Covered

A total of 18 items pertaining to relevance of course contents of training were administered to trainees on five point continuum viz. highly relevant, quite relevant, relevant, somewhat relevant and not relevant with score 5,4,3,2, and 1 respectively. It is interesting to note that none of the respondents elicited their response on somewhat relevant and not relevant continuum. Hence, these two continuums were omitted. Data with regard to relevance of course contents covered in training as perceived by trainees have been given in Table 5.

The data incorporated in Table 5 vividly corroborate that the topics such as water requirement for agricultural crops (92 per cent) water requirement for horticultural crops (88 per cent), practical exercises during the training programme (84 per cent) concept of watershed and watershed management (80 per cent), agricultural drought: concept, assessment and management (80 per cent), importance of meteorological observatory in a watershed programme (80 per cent), get fuel and

fodder from vegetative check dams and prevent gully erosion (76 per cent), estimation and prediction of run off and small watershed (72 per cent), design of water harvesting pond (72 per cent) and field visit to a watershed (68 per cent) were perceived as highly relevant by the trainees.

The topics such as importance of sprinkler/drip irrigation systems, gap analysis of food grains, water resources and their conservation and water harvesting techniques in a watershed programme were perceived as quite relevant by 64.00, 60.00, 56.00 and 52.00 per cent of trainees respectively.

Among the topics covered, alternative crop sequences in a watershed programme, fodder requirement for animals in a watershed programme and crop choices for sustaining livelihood security were perceived as relevant by 48.00, 44.00 and 40.00 per cent of trainees respectively.

Therefore, it could be inferred that majority of the topics (63.55 per cent) were perceived as highly relevant by trainees whereas, 23.33 per cent topics were perceived as quite relevant by them. However, a very few topics (13.11 per cent) were considered as relevant by the participants of training.

Utility of topics covered

For knowing utility of topics covered in training, the trainees were asked to elicit their response on three point continuum viz. most useful, useful and least useful with score 3, 2 and 1 respectively. Data with regard to utility of topics covered in training as perceived trainees have been given in Table 6.

The data presented in Table 6 divulge that out of 18 topics covered in training programme, majority i.e. 11 topics were perceived as most useful by the trainees. These were water requirement for agricultural crops (96 per cent), water requirement for horticultural crops (92 per cent), practical exercises during training programme (88 per cent), field visit to a watershed (84 per cent) importance of meteorological observatory in a watershed programme (84 per cent), concept of watershed and watershed management (80 per cent), agricultural drought: concept, assessment and management (80 per cent), get fuel and fodder from vegetative check

Table 5: Distribution of respondents according to relevance of course contents**(n= 25)**

S.No	Particulars of relevance of course contents of training	Highly Relevant		Quite Relevant		Relevant	
		F	%	F	%	F	%
1.	Concept of watershed and watershed development	20	80.00	4	16.00	1	4.00
2.	Estimation and prediction of run-off and small watershed	18	72.00	5	20.00	2	8.00
3.	Gap analysis of food grains	7	28.00	15	60.00	3	12.00
4.	Water resources and their conservation	10	40.00	14	56.00	1	4.00
5.	Crop choices for sustaining livelihood security	9	36.00	6	24.00	10	40.00
6.	Get fuel and fodder from vegetable check dams and gully erosion	19	76.00	5	20.00	1	4.00
7.	Fodder requirement for animals in a watershed programme	9	36.00	5	20.00	11	44.00
8.	Agricultural drought: Concept, Assessment and management	20	80.00	3	12.00	2	8.00
9.	Water harvesting techniques in a watershed programme	10	40.00	13	52.00	2	8.00
10.	Design of a water harvesting pond	18	72.00	6	24.00	1	4.00
11.	Water requirement of agricultural crops	23	92.00	1	4.00	1	4.00
12.	Water requirement of horticultural crops	22	88.00	2	8.00	1	4.00
13.	Integrated watershed management plan	21	84.00	2	8.00	2	8.00
14.	Field visit to a watershed	17	68.00	7	28.00	1	4.00
15.	Practical exercises during training programme	21	84.00	3	12.00	1	4.00
16.	Importance of drip/sprinkler irrigation systems	8	32.00	16	64.00	1	4.00
17.	Alternative crop sequences in a watershed programme	6	24.00	7	28.00	12	48.00
18.	Importance of meteorological observatory in a watershed programme	20	80.00	4	16.00	1	4.00
Total		286		105		59	
		(63.55)		(23.33)		(13.11)	

% = Percentage; n = No. of participants; Figure in parenthesis indicate percentage

dams and prevent gully erosion (76 per cent), integrated watershed management plan (76 per cent), estimation and prediction of run-off and small watershed (72 per cent) and design of a water harvesting pond (72 per cent).

The topics such as fodder requirement for animals in a watershed programme, importance of sprinkler/drip irrigation systems, gap analysis of food grains, water harvesting techniques in a watershed programme and water resources and their conservation were perceived as useful by 68.00, 64.00, 60.00, 56.00 and 52.00 per cent of

trainees respectively. Interestingly enough, only two topics viz. alternative crop sequences in a watershed programme and crop choices for sustaining livelihood security were considered as least useful by 40.00 and 36.00 per cent of trainees respectively.

It could, therefore, be inferred that majority of topics (62.88 per cent) were perceived as most useful by the trainees whereas, 30.88 per cent topics were considered as useful by them. However, only a negligible percentage of trainees (6.22 per cent) perceived topics as least useful.

Table 6. Distribution of respondents according to the utility of topics covered in training programme as perceived by them

(n=25)

S. No.	Particulars of usefulness of course contents of training	Most useful		Useful		Least useful	
		F	%	F	%	F	%
1.	Concept of watershed and watershed development	20	80.00	5	20.00	–	–
2.	Estimation and prediction of run-off and small watershed	18	72.00	6	24.00	1	4.00
3.	Gap analysis of food grains	8	32.00	15	60.00	2	8.00
4.	Water resources and their conservation	11	44.00	13	52.00	1	4.00
5.	Crop choices for sustaining livelihood security	8	32.00	8	32.00	9	36.00
6.	Get fuel and fodder from vegetable check dams and prevent gully erosion	19	76.00	5	20.00	1	4.00
7.	Fodder requirement for animals in a watershed programme	6	24.00	17	68.00	2	8.00
8.	Agricultural Drought: Concept, Assessment and management	20	80.00	5	20.00	–	–
9.	Water harvesting techniques in a watershed programme	10	40.00	14	56.00	1	4.00
10.	Design of a water harvesting pond	18	72.00	7	28.00	–	–
11.	Water requirement of agricultural crops	24	96.00	1	4.00	–	–
12.	Water requirement of horticultural crops	23	92.00	2	8.00	–	–
13.	Integrated watershed management plan	19	76.00	6	24.00	–	–
14.	Field visit to a watershed	21	84.00	4	16.00	–	–
15.	Practical exercises during training programme	22	88.00	3	12.00	–	–
16.	Importance of drip/sprinkler irrigation systems	8	32.00	16	64.00	1	4.00
17.	Alternative crop sequences in a watershed programme	7	28.00	8	32.00	10	40.00
18.	Importance of meteorological observatory in a watershed programme	21	84.00	4	16.00	–	–
Total		283		139		28	
		(62.88)		(30.88)		(6.22)	

% = Percentage; n= No. of participants; Figures in parenthesis indicate percentage

Opinion of trainees on different aspects of training

A perusal of data given in Table 7 vividly corroborate that all the participants (100 per cent) agreed that their knowledge has increased by participation in training.

They expressed that there was a perfect balance between theory and practical and the time was fully and best utilized. All the participants agreed that attending training was a good learning experience for them and trainees had rich knowledge of subject matter. Besides, they were satisfied by

tea, lunch and sitting arrangements. Majority of the participants have agreed that there was an excellent learning environment during training (92.00 per cent) and were satisfied by duration of training (88.00 per cent). 84.00 per cent of the trainees opined that their attitude towards job has changed by attending training. More than three-fourth (76.00 per cent) of the participants have agreed that discussion after every training session was interesting and highly fruitful and they would like to participate in another training organized in similar way. More than half (52.00 per cent) of the trainees expressed that they have developed new

skills by participating in training. Interestingly enough, more than half of the participants were undecided that training has improved their job proficiency (52.00 per cent) and various AV-aids

used by the trainees has enhanced their learning (56.00 per cent). Similar findings were reported by Kumar *et al.* (2005).

Table 7: Opinion of trainees on different aspects of training (n=25)

S. No.	Opinion	Agree		Undecided		Disagree	
		F	%	F	%	F	%
1.	Knowledge has increased by participation in training	25	100.00	–	–	–	–
2.	Training has changed my attitude towards my job	21	84.00	2	8.00	2	8.00
3.	Development of new skills by participation in training	13	52.00	9	36.00	3	12.00
4.	Training has improved my job proficiency	6	24.00	13	52.00	6	24.00
5.	Various A.V. aids used by the trainees has enhanced learning	7	28.00	14	56.00	4	16.00
6.	Full and best utilization of time	25	100.00	–	–	–	–
7.	Discussion after every training session was interesting and fruitful	19	76.00	5	20.0	1	4.00
8.	Perfect balance between theory and practical	25	100.00	–	–	–	–
9.	Duration of training was satisfactory	22	88.00	2	8.00	1	4.00
10.	Excellent learning environment	23	92.00	2	8.00	–	–
11.	Trainers had rich knowledge of subject matter	25	100.00	–	–	–	–
12.	Tea was satisfactory	25	100.00	–	–	–	–
13.	Lunch was satisfactory	25	100.00	–	–	–	–
14.	Sitting arrangement was satisfactory	25	100.00	–	–	–	–
15.	It was a good learning experience	25	100.00	–	–	–	–
16.	I would like to participate in another training organized in similar way	19	76.00	6	24.00	–	–
Total		330		53		17	
		(82.50)		(13.25)		(4.25)	

% = Percentage; n = No. of participants; Figures in parenthesis indicate percentage

CONCLUSION

The participants expressed that the training programme on 'Scaling up of Water Productivity in Agriculture for Livelihood through Teaching cum Demonstration' was a good learning experience. Exactly 72 per cent of the trainees felt that their expectations were extremely met by attending the

training programme. Majority (80 per cent) of the participants perceived that training programme was highly effective. After training, 84 per cent of trainees expressed that they have developed high level of confidence. Topics such as water requirement of agricultural crops, water requirement of horticultural crops, integrated watershed

management plan, practical exercises during training programme, concept of watershed and watershed management, agricultural drought: concept, assessment and management, importance of meteorological observatory in a watershed programme, get fuel and fodder from vegetative check dams and prevent gully erosion, estimation and prediction of run-off and small watershed, design of water harvesting pond and field visit to a watershed were perceived as highly relevant and most useful by the trainees. The practical exercises and field visit to a watershed helped the participants not only to improve their knowledge but also sharpen their practical skills on various aspects of watershed and watershed management. The training has achieved a very high level of benefits in terms of human resource development and improving linkages between SKUAST-J and State Department of Agricultural Production. In general, the trainees have revealed that the training programme was well planned with expert faculty members and organized effectively; satisfying the need and requirements of the participants.

REFERENCES

- Dahama, O.P. 1979. Extension and rural welfare. New Delhi: Ram Prasad and sons.
- Halim, A. and Mozahar, A. 1997. Training and professional development in B.E. Swanson, R.P. Bentz and A.J. Sofranko (1997) Improving Agricultural Extension- a reference manual. Rome: FAO.
- Jucious, M.J. 1963. Personal management (9th edition). Homewood, IL: Richard D. Irwin.
- Koshti, N.R. and Vijayaragavan, K. 2007. Evaluation of training programme on mushroom cultivation. *Indian Journal of Extension Education*, 43 (1&2): 31-36.
- Kumar, N., Rautaray, S.K., Gupta, M. and Singh, A.K. 2005. Impact of summer school on mechanization of rice production system. *Indian Journal of Extension Education*, 41 (1&2): 54-57.
- Singh, B., Murari, S. Vijayaragavan, K., Padaria, R.N. and Wason, M. 2007. Impact of evaluation building programme of IARI. *Indian Journal of Extension Education*, 43 (1 & 2): 1-5.
- Van Dorsal, W.R. 1962. The successful supervisor. New York: Harper and Row.

