RESEARCH NOTE

Impact of Refresher Training on Skill Development: Participants' Perception and Assessment of Knowledge Gain

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ABSTRACT

The study was carried out to assess the worth of the training programme as perceived by the participants and appraise the knowledge acquired by them in short-term refresher course on improved agricultural tools and implements conducted at CIAE, Bhopal. A total of 48 trainees divided into three batches were included in the study. The result revealed that factors like expectations of developing knowledge and skills to promote farm mechanization motivated the participants to join the programme. Participants were satisfied with the structure and content of the training programme as well as facilities provided to them. They were also happy with the training method followed, training schedule and level of the curriculum. There was substantial improvement in the knowledge level of the trainees on improved agricultural tool and implements as an outcome of the training programme.

Key words: *Training; Skill development; Perception; Knowledge gain;*

Investing in human capital is one of the most effective means of reducing poverty and ensuring sustainable development in rural areas of our country. In this direction, training programs can bring about tremendous desirable change in skill, knowledge, attitudes and behaviour of the extension workers enabling them not only to become well acquainted with the mission but also enhance their skills, competencies and efficiency in a desired manner. A well designed and executed training programme for extension workers ensures information on new technologies, plant varieties and cultural practices etc. reaches farmers who need them in an efficient and effective manner. The aim of such training programme is to train extension workers, agricultural teachers and researchers to enable them to carry the results to a broad range of farmers who could use them so that agricultural production could continue to be increased on a sustained basis with the active participation of the farming community.

Sustenance of a desired level of agricultural productivity requires efficient and timely use of inputs, improvement in quality and value addition to the produce. Farm mechanization has several benefits like increase in the volume of agricultural production, ensuring multiple cropping systems, reduction in dependence upon animal power, saving of labour, increase in efficiency of input use and the per capita output. Apart from these, it is also helpful for diversion of barren land by bringing them under cultivation, reduction in cost of production of various crops and minimization of pre and post harvest losses. It also provides off-farm employment to the population living in rural areas. However, a large section of farming community is still unaware of such potential benefits of farm mechanization due to inadequate dissemination of information. Keeping these factors in view, a short-term training programme on improved agricultural tools and equipment was organized and the impact of that training programme was assessed aiming to evaluate the efficacy of the training in terms of responses and perception of the participants and appraise the knowledge acquired by them on the subject matter.

METHODOLOGY

A short-term training programme entitled 'improved agricultural tool, implements and equipment for increasing productivity and rural employment opportunities' was conducted during first quarter of 2011 at Central Institute of Agricultural Engineering, Bhopal for officials of agricultural department of Government of Orissa. The training was conducted on 48 trainees

which were divided into three batches of one-week duration each. The participants were either assistant agricultural officers or assistant agricultural engineers working for promotion of improved agricultural technologies and know-how among the farmers in different districts of Orissa state. The average age and educational qualification of the participants is presented in (Table1).

Table 1. Average age and educational qualification of the trainees

Qualification of the participants	Batch number		
	I	II	III
M. Tech (Ag. Engg)	4	2	3
M.Sc. (Agri), B. Tech./	0	2	4
B.Sc. (Ag. Engg)	1	5	7
B. Sc. (Agri)	10	7	1
Others	0	1	1
Total	15	17	16
Average age (Years)	46.0	47.8	47.3

The level of knowledge on different aspects of improved agricultural technologies and implements of the participants was assessed using a well-designed questionnaire before and after the training programme. The marks obtained by the participants in both the tests were recorded and analysed to evaluate the knowledge gain. At the end of training programme, the responses of the trainees was recorded on a three to five point scale using a suitable pre-tested proforma on various aspects like perception of the trainees about the quality of the programme, its importance, standards, coverage and time management, utility of various topics, purpose of the training and level of expectation and satisfaction achieved etc. The collected information were classified, tabulated and analysed to arrive at the conclusion of the study. Apart from these, the knowledge acquired by the trainees was evaluated with the help of a questionnaire containing objective type questions on agricultural tools and implements before commencement of training programme as well as at the completion of training programme. The marks obtained in both the tests by the trainees were analysed for assessment of their knowledge gain through the training programme.

RESULTS AND DISCUSSION

There were various motivating factors for the trainees for participating in the training programme. As described in Table 2, most of them were fully to fairly agreeing on the scope to learn about improved agricultural tools and implements as well as getting an opportunity to have practical experiences on use and maintenance of such machines. Similarly, they were also optimistic for promoting farm mechanization in their respective areas with the newly acquired knowledge and showed their willingness to train the farmers on use of such technologies. They also expressed their enthusiasm to maintain linkages with the institute in future for obtaining guidance. However, only a few of them observed the participation in the training programme as an obligatory instruction of the department or merely as a requirement for future promotion. Identification of such factors leading to participate in the training programme is essential to generate maximum impact from the training. *Pathak et al. (2005)* also highlighted the need to identify the social profile, purpose behind attending the training programme and expectations of the trainees for determining the format and nature of the training programme suitable to the training needs of the participants.

The trainees gave favourable responses regarding structure and design of the training programme as well as on the benefits derived from the training programme. In all the three groups, majority of the trainees accepted that they had adequate discussion with the instructor after each lecture and free exchange of ideas, views and opinions had taken place between them. They also expressed their complete satisfaction regarding classroom, laboratories and workshop facilities to the extent of 75 to 100 per cent as the overall score of this statement went to about 95 per cent (Table 3). The boarding and lodging facilities provided were satisfactory to them. They also agreed that the imparted training was helpful for them to acquire new knowledge and developing the skill. *Rampal and Mahindra (2004)* also reported that trainees' satisfaction is dependent on method of training, training schedule, quality of study materials and physical facilities provided to them

Trainees' responses regarding merit of the training programme and realization of their expectations was presented in Table 4. It can be observed that the majority of the participants (66.67%) were of the opinion that the level and standard of the training programme was quite high while others quoted it as just right (31.25%). It indicates that the participants appreciated the level and standard of the training programme. Similarly, most

Table 2. Encouraging factors for participation in the training programme (N=14)

S. No.	Statements	Frequency of opinion of the trainees									Overall score
		Group – I(n=15)			Group – II(n=17)			Group – III(n=16)			
		Fully agree	Fairly agree	Dis-agree	Fully agree	Fairly agree	Dis-agree	Fully agree	Fairly agree	Dis-agree	
1.	To learn in depth about improved agricultural tools/implements	09 (60.00)	06 (40.00)	00 (0.00)	09 (52.94)	08 (47.06)	00 (0.00)	09 (56.25)	07 (43.75)	00 (0.00)	123 (85.42)
2.	To get practical hands-on experience about their operation and maintenance.	08 (53.33)	07 (46.67)	00 (0.00)	09 (52.94)	08 (47.06)	00 (0.00)	06 (37.50)	10 (62.50)	00 (0.00)	119 (82.64)
3.	To promote farm mechanization for increasing production and productivity.	12 (80.00)	03 (20.00)	00 (0.00)	11 (64.70)	05 (29.41)	01 (5.88)	14 (87.50)	01 (6.25)	01 (6.25)	131 (90.97)
4.	To train subordinates and farmers about improved agricultural implements.	08 (53.33)	05 (33.33)	02 (13.33)	10 (58.82)	07 (41.18)	00 (0.00)	10 (62.50)	06 (37.50)	00 (0.00)	122 (84.72)
5.	To establish rapport & linkages with CIAE for future help.	03 (20.00)	10 (66.67)	02 (13.33)	10 (58.82)	06 (35.29)	01 (5.88)	06 (37.50)	08 (50.00)	02 (12.5)	110 (76.39)
6.	Training was mandatory for future promotion or nominated by authority.	02 (13.33)	02 (13.33)	11 (73.34)	01 (5.88)	02 (11.76)	14 (82.35)	02 (12.5)	02 (12.5)	12 (75.00)	66 (45.83)

Figure in the parentheses are percentage to respective totals.

Table 3. Opinion of the trainees regarding benefit of training schedule

S. No.	Statements	Frequency of opinion of the trainees									Overall score (N=144)
		Group – I(n=15)			Group – II(n=17)			Group – III(n=16)			
		Fully agree (3)	Fairly agree (2)	Dis-agree (1)	Fully agree (3)	Fairly agree (2)	Dis-agree (1)	Fully agree (3)	Fairly agree (2)	Dis-agree (1)	
1.	Adequate discussion held after each lecture	12 (80.00)	03 (20.00)	00 (0.00)	12 (70.58)	05 (29.42)	00 (0.00)	09 (56.25)	06 (37.5)	01 (6.25)	128 (88.89)
2.	Free exchange of ideas with faculty members	13 (86.67)	01 (6.67)	01 (6.67)	14 (82.35)	03 (17.65)	00 (0.00)	13 (81.25)	03 (18.75)	00 (0.00)	135 (93.75)
3.	Appropriate classroom, laboratories and workshop facilities	15 (100.00)	00 (0.00)	00 (0.00)	13 (76.47)	04 (23.53)	00 (0.00)	12 (75.00)	04 (25.00)	00 (0.00)	136 (94.44)
4.	Proper utilization of allotted time	08 (53.33)	03 (20.00)	04 (26.67)	13 (76.47)	03 (17.65)	01 (5.88)	09 (56.25)	04 (25.00)	02 (12.5)	117 (81.25)
5.	Appropriate boarding and lodging for the trainees	04 (26.67)	07 (46.67)	04 (26.67)	07 (41.18)	09 (52.94)	01 (5.88)	03 (18.75)	10 (62.50)	03 (18.75)	102 (71.52)
6.	Knowledge gained in training	12 (80.00)	03 (20.00)	00 (0.00)	17 (100.00)	00 (0.00)	00 (0.00)	13 (81.25)	03 (18.75)	00 (0.00)	138 (95.83)
7.	Skill developed in training	08 (53.33)	07 (46.67)	00 (0.00)	12 (70.58)	05 (29.42)	00 (0.00)	06 (37.5)	09 (56.25)	01 (6.25)	121 (84.02)

Figure in the parentheses are percentage to respective totals.

Table 4. Trainees' responses regarding standard, programme schedule and realization of expectations from the training.

S. No.	Particulars/Scale of rating	Percentage of opinion			Overall % of opinion	Overall % of score (N=240)
		Group–I(n=15)	Group–II(n=17)	Group–III(n=16)		
1.	*Standard of the training course.*					
	Very High (5)	0.00	0.00	0.00	0.00	72.92
	High (4)	53.33	76.47	68.75	66.67	
	Just Right (3)	46.67	23.53	25.00	31.25	
	Low (2)	0.00	0.00	6.25	2.08	
	Very Low (1)	0.00	0.00	0.00	0.00	
2.	*Schedule of daily programme*					
	Very tight (5)	0.00	5.88	0.00	2.08	53.75
	Tight (4)	40.00	41.18	6.25	29.17	
	Comfortable (3)	0.00	0.00	12.50	4.17	
	Light (2)	60.00	52.94	81.25	64.58	
	Very light (1)	0.00	0.00	0.00	0.00	
3.	*Realizations of expectations from the training programme.*					
	Much more than expected (5)	6.67	0.00	0.00	2.08	66.25
	More than expected (4)	53.33	52.94	43.75	50.00	
	As expected (3)	13.33	47.06	37.50	33.33	
	Less than expected (2)	26.67	0.00	18.75	14.58	
	Much less than expected (1)	0.00	0.00	0.00	0.00	

of the participants pointed out that the daily schedule of training programme was mild (64.58%) which emphasized that the schedule can be restructured accordingly. The analysis further shows that 50% of the trainees gain knowledge more than their expectation and 33.33% gained as expected, which is again a good sign of quality training imparted by the institute to the extension personnel.

The analysis also revealed that majority of the participants (77.09%) were well satisfied with the course content of the training programme and at the same time 62.50 per cent of the trainees appreciated the explanation capability of the faculty members on subject under discussion. On an average, 66.67 per cent of trainees found relevance of information to the nature of the work performed by them (Table 5). All above

Table 5. Feedback of the Trainees on method and content of training programme (N = 240)

S. No.	Particulars/Scale of rating	Percentage of opinion			Overall % of opinion	Overall % of score
		Group–I(n=15)	Group–II(n=17)	Group–III(n=16)		
1.	Course content of the training					
	Very well satisfied (5)	26.67	5.88	6.25	12.50	80.42
	Well satisfied (4)	60.00	88.24	81.25	77.09	
	Just satisfied (3)	13.33	5.88	12.50	10.41	
	Partially dissatisfied (2)	0.00	0.00	0.00	0.00	
	Dissatisfied (1)	0.00	0.00	0.00	0.00	
2.	Way to explain the subject by the faculty.					
	Very well satisfied (5)	6.67	17.65	12.50	12.50	77.08
	Well satisfied (4)	53.33	58.82	75.00	62.50	
	Just satisfied (3)	40.00	23.53	6.25	22.92	
	Partially dissatisfied (2)	0.00	0.00	6.25	2.08	
	Dissatisfied (1)	0.00	0.00	0.00	0.00	
3.	Relevance of information to the nature of work of the trainees.					
	Very well satisfied (5)	13.33	11.76	25.00	16.66	80.00
	Well satisfied (4)	53.33	76.47	68.75	66.67	
	Just satisfied (3)	33.33	11.76	6.25	16.66	
	Partially dissatisfied (2)	0.00	0.00	0.00	0.00	
	Dissatisfied (1)	0.00	0.00	0.00	0.00	

three parameters are underlining the potential benefits of the training programme. *Singh et al. (2002)* also stressed the importance of usefulness of the training programme to solve the practical problems faced by the trainees in their field of working.

Table 6. Improvement in level of knowledge of the participants

Groups of participants	Average marks obtained		% of change
	before training	after training	
Group – I	22	25	13.64
Group – II	21	26	23.81
Group – III	25	28	12.00
Overall	22.65	26.35	16.69

Finally, the assessment of knowledge gained by the trainees, as depicted in Table 6, revealed that the trainees of different groups made an appreciable improvement of 12-24 percent in their knowledge level during this short period of the programme. This highlighted the effectiveness of the training programme for enhancing skill and knowledge of the participants on improved agricultural tools and machineries. *Singh and Singh (2006)* also reported significant improvement in skill of the trainees through training programme on improved dairy practices.

CONCLUSION

From the findings of this study, it can be concluded that short-term training programmes inclusive of classroom discussions and interactions along with practical hands on experiences on improved agricultural tools and implements are quite useful to augment the skills and knowledge of the participants and such trainings conceived and conducted at Central Institute of Agricultural Engineering are capable to meet all the needs, aspirations, requirement and expectations of the participants.

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