Effectiveness of Season Long Training Programme on Knowledge Levels in Kurnool District of Andhra Pradesh

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ABSTRACT

The study was undertaken to know the effectiveness of season long training programme imparted to Village Agriculture Assistants (VAAs) in Kurnool district of Andhra Pradesh by DoA (Department of Agriculture) during *kharif* 2020. One-group pre and post evaluation design was employed for conducting a formative evaluation. The knowledge tests were administered to 113 VAAs, before and after the training programme. The results showed that there was a significant knowledge gain in subjects like crop production, plant protection and general agriculture in terms of qualification wise, division wise and subject wise. The pre-training mean knowledge score of the trainees was 37.95, which increased to 53.77 after the training. There was an increase of 15.82 in the mean knowledge score, which is significant at the level $p < 0.01$. In the correlation analysis education, experience, social participation, rural back ground and land holding were found to have significant relationship with knowledge levels of the VAAs. Majority of the respondents expressed in their feedback that they were 'satisfied 'regarding its usefulness in enhancing knowledge, appropriateness of the content & its relevancy, stimulation of inquisitiveness, arousal of curiosity & interest.

INTRODUCTION

Government of Andhra Pradesh has established 10641 farmer facilitation centers (*Rythu Bharosa Kendralu* (RBKs)) in the state with one in every village secretariat to provide latest production technologies and quality inputs to the farmers at their village itself on 30.05.2020 and functioning from *kharif* 2020 across the state. Accordingly, the Agriculture Department has recruited 6758 Village Agriculture Assistants and placed them in RBKs. These RBKs will supply the quality inputs like seeds, fertilizer and pesticides to farmers at right price and right time and to disseminate best practices and updated technical knowledge of agriculture and allied sectors for the farmers in every village Secretariat (Socio economic survey of AP-2019-20). Some specific tasks were assigned to VAAs like general functions, data collection activities, extension function, duties related to Supply of quality inputs, alerts and enumeration related functions, functions relates to implementation of schemes and other governmental functions. As a part of this in Kurnool district of Andhra Pradesh 862 RBKs were established at village level and posted VAAs in each RBK to carryout mandated activities. Season long training programme to 113 newly recruited VAAs was organized by Krishi Vigyan Kendra, Banavasi. There were four categories of trainees with regard to their education viz. B.Sc. (Ag.), Diploma in Agriculture, Diploma in Horticulture and B.Sc. (BZC) among VAAs. A pre and post training evaluation was carried out to analyze the raise in knowledge levels among different categories of trainees.

METHODOLOGY

Krishi Vigyan Kendra, Banavsi, has conducted season long training programme from July, 2020 to December 2020 to 113 VAAs of three revenue divisions namely Nandyal (38), Kurnool (35) and Adoni (40) located in Kurnool district. Exploratory research design

was used for this study. One-group pre and post evaluation research design was employed to study the reactions and knowledge gain of the trainees attending season long capacity building training programme. The respondents were classified on the basis of cumulative square root frequency method for the existing knowledge level (pre exposure of season long training). The respondents were exposed to the 12 days season long training programme at different spells from June, 2020 to December, 2020 in the aspects of crop production, plant protection, extension and general agriculture. The post-exposure data was collected immediately after completion of the season long training programme from the respondents using Google forms. Knowledge was measured at two stages viz pre and post exposure with the help of a well-structured interview schedule consisting of 60 questions comprising general agriculture (10), extension (10), crop production (20) and plant protection (20) relevant to the subject matter content taught in the training programme. The knowledge test consists of objective type of test items. The scores assigned were 1 and 0 to correct and wrong/no reply respectively and then the total score for each respondent was calculated by summing of his/her scores for all the items and difference between the score determined knowledge gain. Gain in knowledge was measured in terms of the difference between pre and post training knowledge scores of the trainees. It was measured in terms of correct responses given by the trainees by way of recall on a knowledge test administered to them before and after the organization of season long training programme. The gain or lose of knowledge was measured division wise, qualification wise, subject wise and division cum subject wise of respondents between pre and post trainings.

The data were analysed by paired 't'-test and "z'-test, two samples for mean depend upon sample size to find out the statistical significance of the observed difference between pre-test and post-test training knowledge scores of VAAs in multifaceted angles that is qualification wise, division wise, subject wise and division cum subject wise. The calculated values of 't' & 'z' tests were tested at five percent and one percent levels of significance. The trainees might have been sensitized due to administering of knowledge test before training (pre-test).

RESULTS AND DISCUSSION

Qualification wise effectiveness of season long training on knowledge levels

The knowledge of the subjects immediately after training was assessed to find out the knowledge gain. The gain in knowledge in

different aspects of agriculture and allied subjects was taken as an indicator for the effectiveness of the season long training in knowledge gain.

The data presented in the Table 1 with respect to their qualifications shows that knowledge scores of participants of B.Sc. (Ag.), Diploma in Agriculture, Diploma in horticulture and B.Sc. (BZC), qualifications were, 45.32 and 57.37, 39.04 and 54.68, 34.75 and 52.38, 32.69 and 50.65 respectively. The 't' and 'z'-values of difference between pre and post training mean knowledge score of all the participants were significant at 0.01 level of probability. Pre-training mean knowledge score ranged between 21.67 and 51.77. Before training they had comparatively less knowledge but after training, significant gain in level of knowledge was achieved in all the aspects of general agriculture, extension, crop production and plant protection. The post training mean knowledge scores on different subjects ranged between 38.65 and 58.38. These findings are in concordance with the findings of Shankara et al., (2014) who was also found significant improvement in knowledge levels of extension functionaries (Bhuchetana facilitators) on various aspects of agriculture aspects in Tiptur, Tumkur districts of Karnataka state. Overall knowledge gain was also observed significant ($p<0.01$) in the study of Singh et al., (2010) on evaluation of the agricultural vocational training programmes conducted by the Krishi Vigyan Kendras (Farm Science Centres) in Indian Punjab. Sabharwal and Panwar (2015) were also reported improvement in knowledge levels among participants due to trainings organized by KVK in their study. Bala et al., (2019) reported that training on designing of garments was very useful with maximum training effectiveness index, surface enrichment and cutting of garments were useful. The pre-training mean knowledge score of the trainees of different qualifications was 37.95, which increased to 53.77 after the training. There was an increase of 15.82 in the mean knowledge score, which is significant at the level $p < 0.01$ (Table 1).

Division wise effectiveness of season long training knowledge gain

Besides observing the significant gain in knowledge among qualification wise of participants, the difference was also analyzed between revenue divisions since the participants were from three divisions and whose details are presented in Table 2.

Pre and post training mean knowledge scores of participants of Adoni, Kurnool and Nandyal agricultural divisions were 39.63

Table 1. Qualification wise effectiveness of training on knowledge levels of VAAs

S.No.	Components	No. of trainees	Mean Knowledge score		Mean difference	'Z'-Cal. value	't' - cal value
			Pre training	Post training			
Qualification wise trainees knowledge gain							
1	B.Sc. (Ag.)	n=35	45.32	57.37	12.05	4.95**	–
2	Diploma in Agril.	n=51	39.04	54.68	15.64	7.13**	–
3	Diploma in horticulture	n=12	34.75	52.38	17.63	–	8.71**
4	B.Sc. (BZC)	n=15	32.69	50.65	17.96	–	9.43**
Overall knowledge gain of trainees							
5	Overall Knowledge	n=113	37.95	53.77	15.82	6.24**	–

**significant at 0.01 level of probability   *significant at 0.05 level of probability
**0.01 't' - critical value - 2.97 (n=15)   **0.01 'z' - critical value - 2.57 (n=51)
*0.05 't' - critical value - 2.14 (n=15)   *0.05 'z' - critical value– 1.95 (n=51)
**0.01 't' - critical value - 3.10 (n=12)   **0.01 'z'- critical value - 2.57 (n=35)
*0.05 't' - critical value - 2.20 (n=12)   *0.05 'z'- critical value– 1.95 (n=35)

Table 2. Division wise pre and post evaluation knowledge gain among VAAs

S.No.	Components	No. of trainees	Mean Knowledge score		Mean difference	'Z'-cal. value
			Pre training	Post training		
Agricultural division wise trainees knowledge gain						
1	Adoni	n=40	39.63	56.64	17.01	6.22**
2	Kurnool	n=35	42.45	54.05	11.60	5.28**
3	Nandyal	n=40	37.64	53.97	16.33	8.02**

**significant at 0.01 level of probability   *significant at 0.05 level of probability
**0.01 'z' - critical value – 2.57 (n=40)   **0.01 'z' -critical value - 2.57 (n=35)
*0.05 'z' - critical value – 1.95 (n=40)   *0.05 'z' -critical value – 1.95 (n=35)

and 56.64, 42.45 and 54.05 and 37.64 and 53.97 in subjects like general agriculture, extension, crop production and plant protection. The 'z'-values of difference between pre and post training mean knowledge score of participants of all three divisions were found significant ($p < 0.01$).

Subject wise effectiveness of season long training knowledge gain

As a part of testing the knowledge gain in multiple angles, subject wise has also been tested to see the significant difference of knowledge gain among the participants. In this context the pre and post knowledge levels on crop production, crop protection and allied subjects (horticulture, animal husbandry and home science) were also tested and presented in Table 3.

Pre and post training mean knowledge scores of participants in general agriculture, extension, crop production and plant protection were 5.27 and 8.93, 6.58 and 9.12, 13.59 and 18.35 respectively. The 'z'-values of difference between pre and post training mean knowledge score of participants of all four subjects were found significant ($p < 0.01$) statistically. This is in conformity with the study of Singh et al., (2010) wherein they found that the 't'-values of difference between pre- and post-training mean knowledge scores of all the practices of bee keeping were significant ($p < 0.05$). In practices such as breeding of honey bees and bee enemies they had comparatively little pre-training knowledge but after training significant gain in level of knowledge were achieved in all the practices. Prasad et al., (2019) in his study effectiveness of training programme on oil palm technologies for multipurpose extension officers of state department of horticulture, Andhra Pradesh also revealed that there was significant change in knowledge levels of trainees on production and protection aspects. Kobba et al., (2020) also reported that there was 45 per cent increase in knowledge of the trainees as a result of the training. Majority of the trainees rated the training effectiveness above 80 percent. The overall effectiveness index was 84 per cent. Improvement in post training knowledge level among trainees in their study conducted on rural youth.

Division and subject wise effectiveness of season long training knowledge gain

Significance of knowledge gain was tested in terms of agriculture division cum subject wise among the participants and presented in Table 4. In this analysis the significant knowledge gain was found in pre and post induction training programmes in aspects of general agriculture, extension, crop production and plan protection among the trainees in all the three agricultural divisions of Adoni, Kurnool and Nandyal. In order to test the effectiveness of the induction training statistically, 'z' test was applied to see whether there existed any significant difference between the pre-exposure and post-exposure knowledge. The 'z'-values of difference between pre and post training mean knowledge score of all the agricultural divisions along with subject wise were significant ($p < 0.01$).

Correlation was administered to see the socio personal variables which are having positive and significant relationship with knowledge levels of the VAAs and it revealed that education, experience, social participation, rural back ground and land holding have found to have significant relationship with knowledge levels of the VAAs. Hence, in order to improve he knowledge levels we need to focus on the above factors which were found to be significantly correlated with knowledge. These results are in line with the results obtained by Pordhiya et al., (2017) in his study on Impact Analysis of Vocational Training on Scientific Dairy Farming in Haryana where in variables like education, land holding were significantly correlated with knowledge levels of participants. KVK trainings have enhanced the knowledge levels of trainees was also reported by Kumbhare and Khonde (2009); Singh et al., (2020).

Feedback on season long training programme to VAAs

Feedback is inevitable in any transfer of technology mechanism to take corrective measures, so that the same can be run successfully for long term. The feedback regarding various aspects of the induction training was collected in three quantum (High, medium and low with 3, 2 and 1 scores) from the participants to assess the practical utility of the induction training in executing their responsibilities in day to

Table 3. Subject wise pre and post knowledge gain among VAAs

S.No.	Subject	No. of trainees	Total score	Mean Knowledge score		Mean difference	'Z'-cal value
				Pre training	Post training		
1	General Agriculture	n=113	10	5.27	8.93	3.66	4.45**
2	Extension	n=113	10	6.58	9.12	2.54	3.63**
3	crop protection	n=113	20	13.59	18.35	4.76	4.28**
4	Plant protection	n=113	20	12.47	18.73	6.26	6.97**

**significant at 0.01 level of probability   *significant at 0.05 level of probability
**0.01 'z' - critical value - 2.57 (n=113)   *0.05 'z' - critical value - 1.95 (n=113)

Table 4. Division cum Subject wise pre and post knowledge gain among VAAs

S.No.	Subject	No. of trainees	Total score	Mean Knowledge score		Mean difference	'Z'-cal value
				Pre training	Post training		
Adoni Division							
1	General Agriculture	n=40	10	4.65	8.54	3.89	6.51**
2	Extension	n=40	10	5.23	9.27	4.04	3.76**
3	crop production	n=40	20	14.6	18.64	4.04	2.93**
4	Plant protection	n=40	20	13.27	17.53	4.26	3.73**
Kurnool Division							
1	General Agriculture	n=35	10	6.57	8.65	2.08	4.97**
2	Extension	n=35	10	7.59	8.24	0.65	2.98**
3	crop production	n=35	20	15.25	19.34	4.09	3.24**
4	Plant protection	n=35	20	14.37	18.65	4.28	4.44**
Nandyal Division							
1	General Agriculture	n=40	10	4.38	8.65	4.27	12.50**
2	Extension	n=40	10	5.37	8.45	3.08	6.28**
3	crop production	n=40	20	13.57	18.34	4.77	3.06**
4	Plant protection	n=40	20	12.57	17.68	5.11	5.16**

**significant at 0.01 level of probability *significant at 0.05 level of probability
**0.01 'z' - critical value – 2.57 (n=40) **0.01 'z' -critical value - 2.57 (n=35)
*0.05 'z' - critical value – 1.95 (n=40) *0.05 'z' -critical value – 1.95 (n=35)

Table 5. Correlation between socio personal variables and knowledge level

S.No.	Social personal variables	'r' values (0 to 1)
1	Age	0.13
2	Education	0.54**
3	Experience	0.61**
4	Annual Income	0.26
5	Social participation	0.57**
6	Rural background	0.63**
7	Urban background	0.34
8	Land holding	0.45*

Table 6. Feedback of VAAs on induction training programme

S. No.	Feedback characteristic	Weighted mean score (%)	Rank
1	Usefulness in enhancing knowledge	84.85	I
2	Relevancy & appropriateness of the content	77.56	II
3	Stimulation of inquisitiveness and curiosity	74.34	III
4	Rational and practical presentation	73.58	IV
5	Appropriateness of the information to the field condition	70.10	V
6	Credibility of the information	68.94	VI
7	Improved self confidence	64.25	VII
8	Easy to understand and augmented learning experience	63.58	VIII

day professional life. The statement wise analysis of feedback on the induction training was furnished in Table 6.

Majority of the respondents were 'satisfied ' regarding usefulness in enhancing knowledge (84.85%), relevancy and appropriateness of the content (77.56%), stimulation of inquisitiveness and curiosity (74.34%), rational and practical presentation (73.58%), appropriateness of the information to the field condition (70.10%), credibility of the information (68.94%), improved self-confidence (64.25%) and easy to understand and augmented learning experience (63.58%). Shankara et al., (2014) in their study also found that majority of the trainees expressed that they got more information on mandates of bhuchetana programme was coincides with the relevancy and appropriateness (79.52%) of

the content in this study. This implies that the subject matter specialists of Krishi Vigyan Kendra and from other institutes were well versed with information and had collected enormous information to train the trainees more effectively. Usefulness, relevancy, improved self-confidence and suitability of the content was also found in the study of Meena et al., (2014) in their study on effectiveness of multimedia digital video disk on knowledge gain of improved dairy farming practices in Haryana.

CONCLUSION

The findings clearly indicate that the KVK is realizing the objectives of the training programmes to extension functionaries in terms of achieving desired outcomes. With the changing environment trend in various agricultural sectors, information and knowledge has increasingly become an important factor of production. The effective dissemination of information on crop production, plant protection, extension and general agriculture is essential to expand the reach of demand driven services as well as to improve the quality of service delivery. The season long training was proved effective in transmitting the relevant information as the overall mean knowledge gain with regard to agriculture and allied areas was 15.82 and also pre and post knowledge was found significant at 0.01 level of probability. The result of feedback shows that majority of the respondents were satisfied 'regarding usefulness in enhancing knowledge, suitability of the information to the field situation, improves self-confidence, arousal of curiosity and interest, relevancy and appropriateness of the content, completeness, credibility, simplicity and logical presentation of information.

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