Knowledge Up-gradation of Extension Functionaries on Non Timber Forest Produce i.e. Lac via Model Training Course

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ABSTRACT

Model Training Courses" (MTCs) scheme has been implemented since 1996 by Directorate of Extension, Ministry of Agriculture, Government of India. Its major emphasis is demand driven capacity building of extension managers, marketing managers and extension functioning of State development department. These training programme are organized on priority areas of agriculture, horticulture and allied subjects. In the similar fashion a MTC was organized at ICAR-Indian Institute of Natural Resins and Gums (IINRG) Ranchi especially for the Extension functionaries of the Government. The investigation aimed to study the impact of model training course on lac production, processing, product development and value addition in term of knowledge level, level of satisfaction of trainees, usefulness of the topics covered and overall grading of training. The study was conducted at ICAR-IINRG Ranchi and all participants who attended Model Training Course 2014 were selected as respondents for this study. A questionnaire containing multiple choice questions on different aspect of Lac Production technology was given to the trainees before and after conduct of training. The knowledge level was obtained from the overall mean score of the respondents and based on the mean score, standard deviation was calculated. On the basis of overall mean score and standard deviation the knowledge level of the respondents were classified. Data was tabulated and analyzed. It was observed that a majority of participants were middle age group (35-45 years) and belonged to male gender. It was found that 37.05 percent, 22.22 per cent, 7.40 per cent and 33.33 per cent participants belonged to general caste, backward caste, scheduled caste and scheduled tribe respectively. Majority of the respondents i.e. 51.85 per cent were post graduate and above. It was found that 51.85 per cent belongs to small family. It was found that 44.44 per cent of the respondents had low work experience. Majority of the respondents i.e. 59.26 per cent had not participated in any training programme on lac. Majority of the respondents were having their family monthly income Rs 30,001 and above. Majority of the respondents i.e. 51.85 per cent were not aware about social participation in any organization. It is evident from the study that knowledge level of trainees had increased significantly in all aspect of lac cultivation. The result implies that the trainees were mostly satisfied with the course content as well as the manner in which training was imparted. It can be said that this model training course included nearly all the topics required by the trainees and most of the trainees felt that facilities provided during training were very good.

Keywords: Extension functionaries, Knowledge, Lac, Model training course, Non timber forest produce

INTRODUCTION

India is the major producer of lac, accounting for more than 50% of the total world production. Today an average of about 15-20 thousand tons of stick lac (raw lac) is produced in the country per year. Usually host trees standing on 'Rayyati' lands are used for lac cultivation and in some areas trees on government land are taken on lease or rental basis. The country's production of lac was 19,577 tonnes in 2012-13 (Yogi *et al.,* 2014).

Non Timber Forest Produce (NTFP) i.e. lac is a natural resinous substance of profound economic importance in India. It is the only resin from animal origin lending itself to diverse applications e.g. as a

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protective and decorative coating in the form of thin films, adhesives and plastics. It makes a small but significant contribution to the foreign exchange earning of the country, but the most important role that lac plays in the economy of the country is that roughly 3-4 million tribal people, who constitute the socio-economically weakest link of Indian population earn a subsidiary income from its cultivation. Stick lac (crude lac) produced in the country is processed in a large number of factories organized on a cottage industry scale to produce either the seedlac or shellac, before it is exported. These manufacturing centres are distributed throughout the lac-growing areas and handle maximum portion of the country's production. The process of refining is simple and manual labour is employed for the purpose. A fairly large number of skilled workers depend on this industry for employment. Lac cultivation is known as a good source of livelihood resource for poor farmers and assured source of income during drought years.

Lac cultivators are not following scientific practices, thus compromising with quality and optimum productivity. The ICAR-Indian Institute of Natural Resins Gums, Namkum, Ranchi regularly organizes capacity building programme on scientific lac cultivation, processing and its uses. It is trying hard to convert more number of cultivators from conventional to modern lac producer by upgrading their knowledge and temperament. Besides farmers' training, the pre-service and in-service training of extension functionaries is also equally important for effective extension system. "Model Training Courses" (MTCs) scheme has been implemented since 1996 by Directorate of Extension, Ministry of Agriculture, Government of India. Its major emphasis is demand driven capacity building of extension managers, marketing managers and extension functionaries of state development department. These training programmes are organized on priority areas of agriculture, horticulture and allied subjects. In the similar fashion, a Model Training Course was planned & organized at ICAR -Indian Institute of Natural Resins and Gums (IINRG), Ranchi especially for the extension functionaries of the Government. The programme was sponsored by Directorate of Extension, Department of Agriculture and Co-operation, Ministry of Agriculture, Govt. of India, New Delhi.

ICAR-IINRG, Ranchi generates modern technologies for lac production, processing, product development, value addition and also organizes transfer of technology activities for lac cultivators and extension workers and other officers of Government Organization (GOs) & Non Government Organization (NGOs). These training programmes need to be evaluated time to time in order to know the effectiveness of training in bringing desired changes amongst the trainees behavior. Keeping this in view, current study was planned to the knowledge up-gradation of extension functionaries on advances in lac production, processing, product development, value addition.

MATERIALS AND METHODS

The study was conducted at ICAR-IINRG, Ranchi and all participants who attended Model Training Course 2014 were selected as respondents for this study. The respondents were government officials i.e. scientists, subject matter specialists, forest officials and extension workers.

In this study, impact of training programme refers to the manner and extend to which training has influenced the knowledge level of extension officers in respect to their activities in the organizations. Impact of training was measured in term of knowledge level, level of satisfaction of trainees, usefulness of the topics covered and overall grading of training. A questionnaire containing multiple choice questions on different aspects of lac production technology was given to the trainees before and after completion of training. The knowledge level was obtained from the overall mean score of the respondents and based on the mean score, standard deviation was calculated. On the basis of overall mean score and standard deviation, the level of the respondents was classified into three categories-below average, average and above average knowledge.

Level of satisfaction of trainees was measured using a scale having 5 points continuum ranging from 'very well satisfied' to 'partially satisfied', 'partially dissatisfied', 'dissatisfied' and 'highly dissatisfied'. Opinion from trainees on degree of availability of resources and facilities during training was also studied along with their suggestions to improve the training delivery mechanism. Descriptive statistics were used to arrive at conclusion.

RESULTS AND DISCUSSION

Socio-economic characteristics: The background of the trainees was studied and results are given in Figure 1. It was observed that a majority i.e. 66.66 per cent of participants were middle age group (35 to 45 years) whereas 22.22 per cent and 11.11 per cent of respondents belong to the old age group (more than 45 years) and young age group (less than 35 years) respectively. It was found that 96.3 per cent and 3.70 per cent participants belonged to male and female gender respectively. It was found that 37.05 per cent, 22.22 per cent 7.40 per cent and 33.33 per cent participants belonged to general caste, backward caste, scheduled caste and scheduled tribe respectively. Majority of the respondents i.e. 51.85 per cent were Post Graduate and above whereas 29.63 per cent and 18.52 per cent belong to Graduate and Intermediate, respectively. It was found that 51.85 per cent and 48.15 per cent belong to small family (i.e. ≤4 families members) and large family (i.e. >4 families members) respectively. It was found that 44.44 per cent of the respondents had low work experience (0-10 years), 14.81 per cent had medium work experience (10-20 years) and 40.74 per cent had high work experience (>20 years). It was found that majority of the respondents i.e. 59.26 per cent were not participated in any training programme on lac. It is inferred that majority of the respondents were having their family monthly income Rs 30,001 and above. Majority of the

respondents (77.77%) had monthly income above Rs.30001 followed by 11.11 per cent with monthly income Rs. 10001-20000, 7.40 per cent with monthly income Rs. 20001-30000 and 3.70 per cent with monthly income upto Rs. 10000. Majority of the respondents i.e. 51.85 per cent were not member of any social organization. The finding is in line with the findings of Singh *et al.* (2012).

Degree of knowledge towards lac cultivation: The knowledge level was obtained from the overall mean score of the respondents and based on the mean score, standard deviation was calculated. On the basis of overall mean score and standard deviation, the knowledge levels of the respondents were classified into three categories- below average, average and above average knowledge.

Knowledge level of respondents towards Lac cultivation before training-

In reference of Figure 2, it revealed that

(i) The respondents who obtained the mean score below and equal to 5.4 were classified as having below average knowledge towards the lac cultivation before attending the training programme and their frequency and percentage were 16 and 59.25%, respectively.

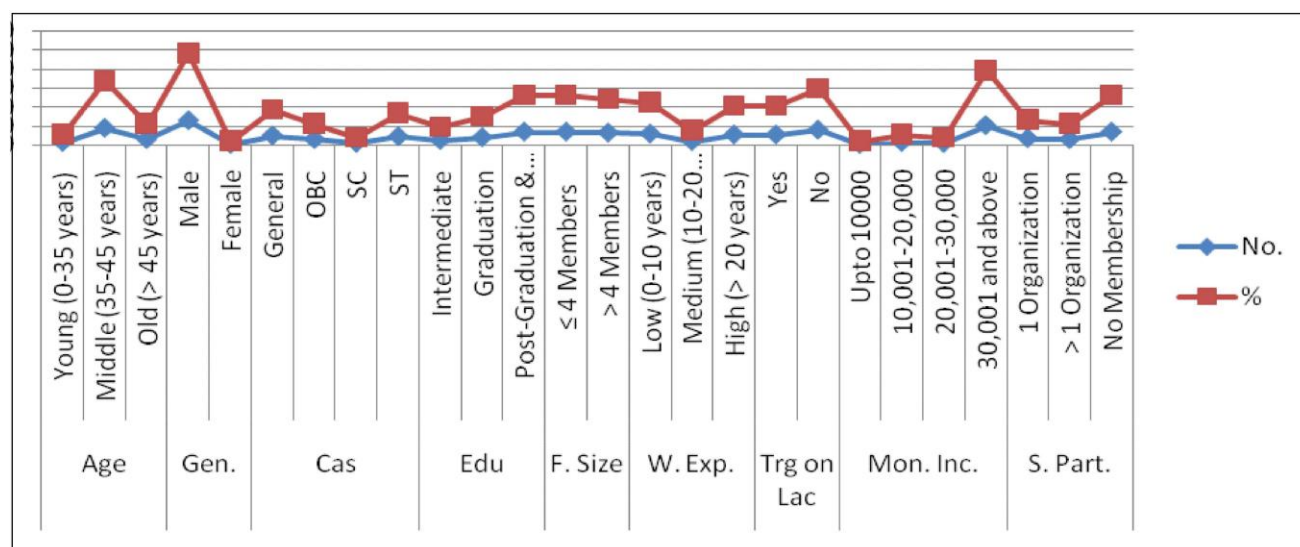(ii) The respondents who obtained the mean score between 5.5 to13.2 were classified as having average

Figure 1: Socio-economic profile of the respondents

knowledge towards the lac cultivation before attending the training programme and their frequency and percentage were 6 and 22.22%, respectively.

(iii) The respondents who obtained the mean score more than or equal to e"13.3 were classified as having above average knowledge towards lac cultivation before attending the training programme and their frequency and percentage were 5 and 18.51%, respectively.
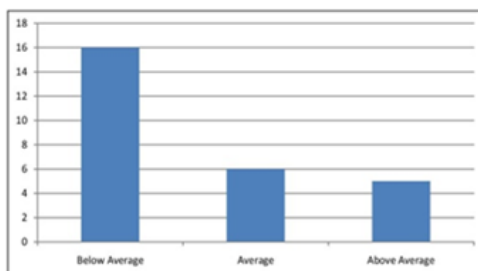

Figure 2: Knowledge level of respondents towards lac cultivation before training

Knowledge level of respondents towards lac cultivation after training-

In reference of Figure 3, it revealed that

(i) The respondents who obtained the mean score below and equal to 17.55 were classified as having below average knowledge towards the lac cultivation after attending the training programme and their frequency & percentage were 8 and 29.62%, respectively.

(ii) The respondents who obtained the mean score between 17.56 to 25.84 were classified as having average knowledge towards the lac cultivation after attending the training programme and their frequency & percentage were 11 and 40.74%, respectively.

(iii) The respondents who obtained the mean score more than or equal to $\geq$25.85 were classified as having above average knowledge towards lac cultivation after attending the training programme and their frequency & percentage were 8 and 29.62%, respectively.
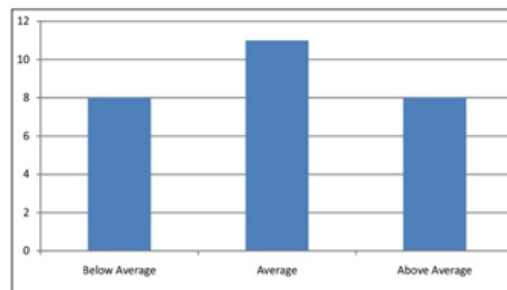

Figure 3: Knowledge level of respondents towards lac cultivation after training

Changes in knowledge level of respondents towards lac cultivation-

In reference of Figure 4, it revealed that

(i) The respondents who obtained the mean score changes in after & before training below and equal to 6.2 were classified as having below average knowledge towards the lac cultivation and their frequency and percentage were 6 and 22.22%, respectively.

(ii) The respondents who obtained the mean score changes in after & before training between 6.3 to 14.7 were classified as having average knowledge towards the lac cultivation and their frequency & percentage were 12 and 44.44%, respectively.

(iii) The respondents who obtained the mean score changes in after & before training more than or equal to $\geq$14.8 were classified as having above average knowledge towards lac cultivation and their frequency & percentage were 9 and 33.33%, respectively.
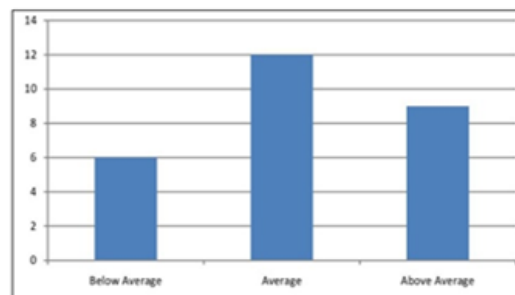

Figure 4: Changes in degree of knowledge level of respondents towards lac cultivation

The above tables and figures shows that majority of the selected respondents have average knowledge towards the scientific lac cultivation and after that respondents have above average knowledge, it means respondents have very optimistic views towards scientific lac cultivation and few respondents have below average knowledge level towards scientific lac cultivation. It also revealed that training programme has positive and

Table 1: Distribution of respondents based on their degree of satisfaction on delivery mechanism (N=27)

Particular	Very well satisfied		Partially satisfied		Partially dissatisfied		Dissat-isfied		Highly dissatisfied	
	No.	%	No.	%	No.	%	No.	%	No.	%
Course content	24	88.88	3	11.11	0	0	0	0	0	0
Coordinator's skill & support	26	96.30	1	3.70	0	0	0	0	0	0
Expression of faculty	20	74.07	7	25.92	0	0	0	0	0	0
Relevance to your needs	21	77.77	6	22.22	0	0	0	0	0	0
Overall learning from the course	20	74.07	6	22.22	0	0	0	0	0	0
Course in general	20	74.07	7	25.92	1	3.70	0	0	0	0

Table 2: Distribution of respondents based on their degree of satisfaction on different aspects of training content and delivery mechanism (N=27)

Particular	Very well satisfied		Partially satisfied		Partially dissatisfied		Dissat-isfied		Highly dissatisfied	
	No.	%	No.	%	No.	%	No.	%	No.	%
Expectation from the course were mostly fulfilled	16	59.25	10	37.03	0	0	1	3.70	0	0
I will recommend this programme to others	21	77.77	4	14.81	2	7.40	0	0	0	0
Proportion of exercises/case studies/ examples was adequate	13	48.14	13	48.14	0	0	1	3.70	0	0
Topics were updated to suit the present scenario	13	48.14	12	44.44	1	3.70	1	3.70	0	0
Additional knowledge was gained due to the programme	23	85.18	3	11.11	0	0	1	3.70	0	0
Resource materials were well organized, useful and adequate	20	74.07	6	22.22	0	0	1	3.70	0	0
Teaching aids used were well prepared and comfortable in viewing	21	77.77	5	18.51	0	0	1	3.70	0	0
Speakers were clear in their presentation & trainees were giving relevant information	24	88.88	2	7.40	0	0	1	3.70	0	0
Participants had enough opportunities to interact with the trainers	16	59.25	10	37.03	0	0	1	3.70	0	0
Training methodologies used were interesting and relevant for the purpose	19	70.37	7	25.92	0	0	1	3.70	0	0
I can use the information learned and skills acquired	21	77.77	4	14.81	2	7.40	0	0	0	0
Medium of instruction	21	77.77	6	22.22	0	0	0	0	0	0
Timely information of day to day action	20	74.07	7	25.92	0	0	0	0	0	0
Atmosphere to exchange idea	19	70.37	8	29.62	0	0	0	0	0	0
Extent to field experience	19	70.37	3	11.11	5	18.5	0	0	0	0

significant effect on extension functionaries' knowledge on scientific way of lac cultivation /practices. The finding is in line with the findings of Kayensuza *et al.* (2014), Khadre *et al.* (2009)*,* Kumar & Jaiswal (2015), Savita *et al.* (2011) and Upadhyay *et al.* (2014).

Level of satisfaction: It was measured in terms of degree of satisfaction of trainees on course contents, methods of training and expression of faculties.

Data from Table 1 showed that more than 85 per cent trainees were very well satisfied with the training contents and Coordinator's skill & support. More than 70 per cent of trainees were well satisfied with expression of faculty, relevance to their needs, overall learning from the course and course in general whereas only one of the trainees was partially dissatisfied with course in general and none of them were dissatisfied or highly dissatisfied. This result implies that the trainees were mostly satisfied with the course content as well as the manner in which training was conducted. The finding is in line with the findings of Singh *et al.* (2012).

Data from Table 2 showed that trainees were very well satisfied and partially satisfied i.e. they had very optimistic views (satisfactory level) towards the programme. More than 80 per cent trainee's expectation from the course were mostly fulfilled, They recommend this programme to others, proportion of exercises/ case studies/ examples was adequate, topics were updated to suit the present scenario, additional knowledge was

gained due to the progrmme, resource materials were well organized, useful and adequate, teaching aids used were well prepared and comfortable in viewing, speakers were clear in their presentation & trainees were giving relevant information, Participants had enough opportunities to interact with the trainers, training methodologies used were interesting and relevant for the purpose, use the information learned and skills acquired, medium of instruction, timely information of day to day action, atmosphere to exchange idea, extent to field experience are upto their very well and partially satisfactorily level. Only few trainees was partially dissatisfied or dissatisfied with delivery mechanism of course and none of them were highly dissatisfied. This result implies that the trainees were mostly satisfied with the delivery mechanism of course and manner in which training was conducted. The finding is in line with the findings of Singh *et al.* (2012).

Opinion on support services: Table 3 revealed that Most of the trainees felt that facilities provided during training were satisfactorily in nature. More than 80 per cent of trainees perceived that the support services like food, accommodation, transport, reception at arrival, medical facilities, library facilities, cleanliness, lighting, air-conditioning, teaching equipments are upto their expectations and satisfied during the training programme. This implies that ICAR-IINRG Ranchi had made an adequate arrangement during model training course for trainees. This result implies that the trainees

Table 3: Distribution of respondents based on their degree of satisfaction on support services (N=27)

Particular	Very well satisfied		Partially satisfied		Partially dissatisfied		Dissat- isfied		Highly dissatisfied	
	No.	%	No.	%	No.	%	No.	%	No.	%
Food	8	29.62	14	51.85	5	18.51	0	0	0	0
Accommodation	14	51.85	10	37.03	2	7.40	0	0	1	3.70
Transport	18	66.66	7	25.92	2	7.40	0	0	0	0
Reception at arrival	20	74.07	6	22.22	0	0	0	0	1	3.70
Medical facilities	14	51.85	11	40.74	1	3.70	0	0	1	3.70
Library facility	14	51.85	10	37.03	2	7.40	0	0	1	3.70
Training venue is neat, clean, comfortable and well maintained	20	74.07	5	18.51	2	7.40	0	0	0	0
Lighting was adequate in the venue	22	81.48	5	18.51	0	0	0	0	0	0
Air-conditioning is working well in the venue	12	44.44	10	37.03	3	11.11	1	3.70	1	3.70
The computer, projection and audio facilities in the venue are appropriate for the teaching- learning purpose	25	92.59	1	3.70	1	3.70	0	0	0	0

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CONCLUSION

Knowledge and experience gained during model training courses will improve the job performance of the participants and ultimately lac cultivars of the country will get benefitted. It is evident from the study that knowledge level of trainees had increased significantly in all aspect of lac cultivation. Meager participation of young trainees in the studied MTCs indicated that extension organizations are deputed middle and senior extension personnel in large number. However, young officers need such training more urgently and encouragement of such participants in these training will be more productive for the nation. Further, the impact of such MTCs on actual adoption

of technologies learnt and transferred by the extension professionals need to be assessed for their better refinement in field.

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