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Value addition to byproducts of sericulture industry by better resource management

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Abstract : Sericulture is a promising enterprise playing a significant role in uplifting women as women perform about 60% of the activities. Sericulture technologies developed in the recent past are more appropriately suitable to women. The entrepreneurship development for utilization of bye products of sericulture for value addition is not exploited till recently. Hence, an attempt is made in the present study to train women for producing cocoon handicrafts commercially. During the programme, the women were taught how to practice different technical skills, exposed to demonstrations on preparing handicrafts and allowed to practice by them selves. The present investigation was carried out with100 trained women selected from south Indian states from the registers maintained at the training division, CSRTI, Mysore. The data were collected after two years of training by personally visiting them with a structured schedule. Various training performance indices were worked out and found that the participants were very much satisfied about the way the programmes were conducted. The variance for all the programmes was found to be above 10 per cent indicating acceptance of the programmes by the women participants. The trained women have enterprise themselves in to preparation of cocoon handicrafts, vermi compost, rearing young age silkworms on commercial basis. Almost 15% of the women trained in different programmes have ventured in to setting up of new business units. The ventures initiated by the trained women were provided with necessary support and guidance under Catalytic Development Programme (CDP) so that the beneficiary continues in the business. The demand for programmes, which directly helps in creating enterprises in rural areas in sericulture sector, has been steadily increased. The successful women after setting up of own business ventures are providing employment to 10-15 people in the village through out the year, thus contributing to economic development. Similar training programme may be planned in new areas covering and new women farmers.

Key words: Value addition, Byproducts, Sericulture management.

INTRODUCTION

The role of women in India and their status are linked to the country's history and social system. Rural women have been silent workers in general and very intimately involved in farming. If women are to be made economically viable and self-income generating, the employment and employability of rural women need to be given priority. It is an accepted fact that women have been putting more labour not only in terms of physical output but also in terms of quality and efficiency. Sericulture is a promising enterprise playing a significant role in uplifting women. As sericulture is a family enterprise, women perform about 60% of the activities. The locations of productive activities in sericulture are confined to places such as household compound. This includes the activities in mulberry cultivation (planting, weeding, inter cultivation, application of FYM and chemical fertilizers, leaf harvesting and pruning), silkworm rearing (disinfection, chawki rearing,

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late age rearing, mounting, harvesting, de-flossing, etc.,) and post cocoon activities (reeling, twisting, weaving, printing and dyeing).

India is the second largest producer as well as the consumer of silk in the world. Besides, India has occupied unique position in the sericulture map of the world for being the only country producing all the five types of silks known to occur naturally and exploited commercially. Similarly, Indian ready to wear / use products are popular all over the world because of the craftsmanship, art and variety of finished products to suit the versatile need of mankind. Because of these inherent strengths and natures' gift, India today stands apart as the 'Silk Country' in the world.

Need for Human Resource Development

The objectives of women and men sericulturists differ and it cannot be assumed that women's main objective is improved returns on farm investments. Women's multiple roles – having and rearing children, domestic work, providing food and meals and family security – all imply a wider range of farming objectives. As most of the women are illiterate and deprived of any exposure to mass media and outside world, their knowledge is confined to traditional practices. Women tend to be heavily represented among resource poor and low technology farmers. Successful adoption of any technology depends on the complexity of the technology, risk involved in the technology and the cost structure. Technologies appropriate for the activities, farming objectives and production conditions of women sericulturists are in short supply. Research has often failed to produce technologies that would improve the farming operations typically done by women. However a few technologies have been developed in the recent past are handy and more appropriately suitable for physical and social situation of women. The benefits of these technologies are clearly seen with the limited number of women. Hence, the need of the hour is disseminating and popularizing the successful technologies to a large number of women sericulturists for improving the productivity and employability. In this regard the present programme of training women in different areas of sericulture took shape as indicated in Table 1.

Women participate in almost all activities of pre cocoon sericulture. Wide scope for the development of entrepreneurship in women is in the offing. The entrepreneurship development for utilization of bye products of sericulture for value addition is not exploited till recently. Hence, an attempt is made in the present study to train women for producing cocoon handicrafts commercially.

METHODOLOGY

The women of different categories like small, medium, large and marginal farming families practicing sericulture and women members of quality clubs, sthree shakthi, self help group etc. who intend to venture in to sericulture business were trained under different training programmes. During these programmes, the women were taught how to practice different technical skills, exposed to demonstrations and allowed to practice technology by them selves to gain confidence for further adoption. They were also involved in practicing and internalizing the skills involved in new technologies of sericulture. They were allowed to practice each and every skill independently for a reasonable time. In some of the programmes like value addition to by products of sericulture industry by better resource management, the trainees were exposed to managerial, marketing and behavioural skills to help themselves to initiate own production / business ventures. Maximum of 25 candidates were trained in each batch under different programmes. A total of 1934 [587 (2004-05), 722 (2005-06) and 625 (2006-07) women were trained under the various training programmes identified. The trainees were evaluated about the gain in knowledge by conducting pre and post evaluation for every batch.

For the purpose of the study 100 trained women were selected from south Indian states at random from the registers maintained at the training division, CSRTI, Mysore. The data were collected from the selected women respondents after two years of training by personally visiting them with a structured schedule. Data on personal characteristics, business venture if any established after training, knowledge and skill level of technologies before and after attending the training were collected. The opinions of the trained women were also documented about the conduct of the course and facilities provided during the training programme.

The steps followed in training women sericulturists are indicated in the fig.1. The training needs were collected

from the women who report for training on the first day. Accordingly, the course curriculum was finalized for each batch of trainees, identified the faculty to teach in local language, audio-visual aids were arranged in the class rooms and related skill teaching classes wee also arranged apart from arranging study tour.

Based on the feed back obtained form women sericulturists, the training programmes were evaluated by

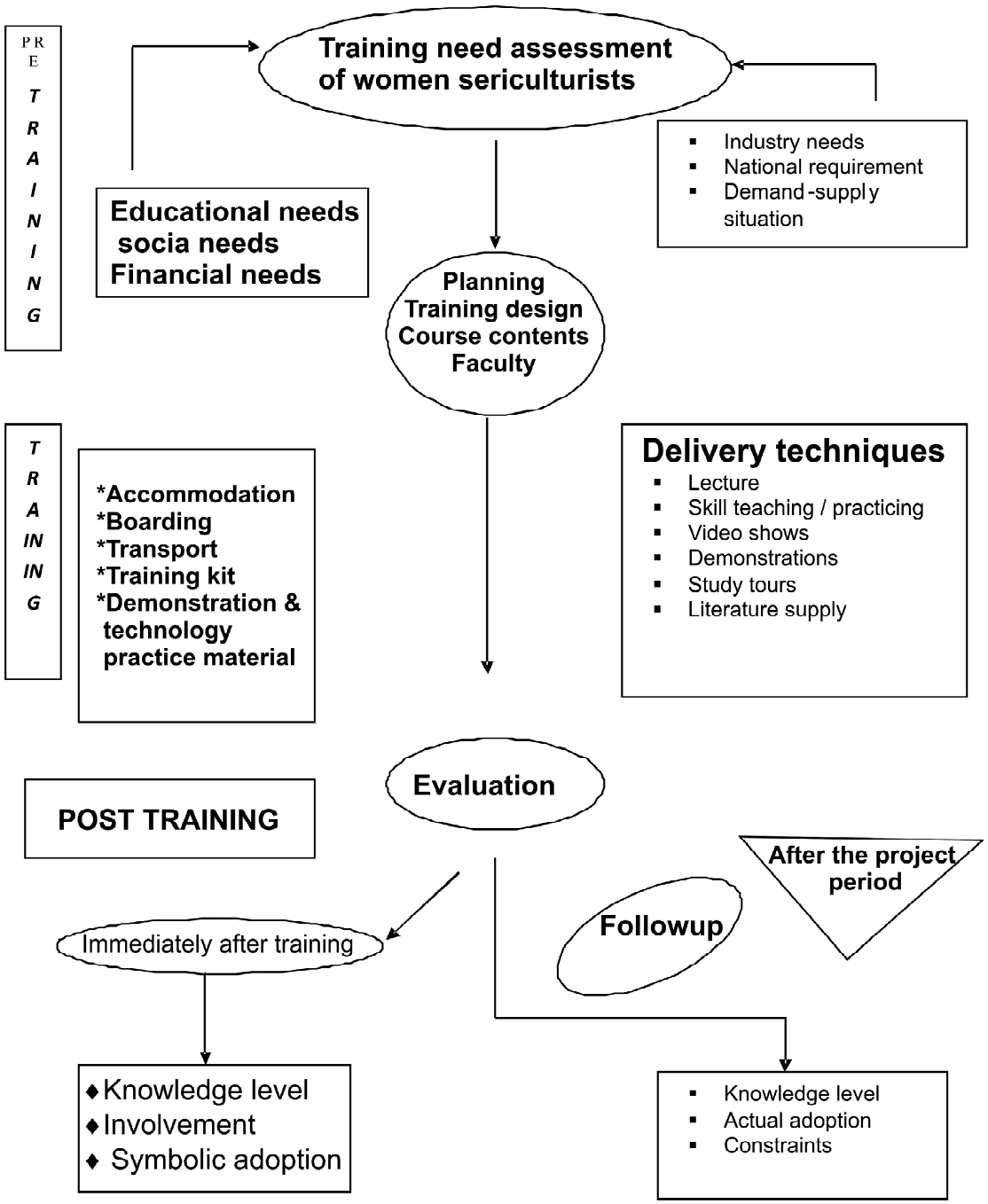

Fig.1: Diagram showing the steps involved in carrying out the women training programmes under seri-technology complex.

working out the Training utility, Training efficiency, Training facility, Course coverage index, Training management index and variance by using the following formulae:

Training Facility Index (TFI) indicates the trainee's satisfaction about the facilities that were provided to them during the course

$$\textbf{TFI} = \frac{\text{Score obtained}}{\text{Total score obtainable}} \times 100$$

Training Efficiency Index (TEI): This index indicates how efficient the training programme was? This index is calculated by using the following formula

$$\textbf{TEI} = \frac{\text{Scores obtained}}{\text{Total score obtainable}} \times 100$$

Training Utility Index (TUI): This refers to the usefulness of the course contents to the participants after the training programme

$$\textbf{TUI} = \frac{\text{Utility score obtained}}{\text{Total utility score obtainable}} \times 100$$

Training Management Index (TMI): This refers to the overall management and coordination of the training programmes

$$\textbf{TMI} = \frac{\text{Training facility index} + \text{Training efficiency index} + \text{Training utility index}}{3}$$

To assess the impact of training on knowledge and adoption of the participants, the participants were circulated with a questionnaire before and after the training programme and the improvement in knowledge level was measured (Anastasi, 1961) by using the formula

$$\text{Improvement in knowledge} = \frac{\text{Post test score} - \text{Pre test score}}{\text{Pre test score}} \times 100$$

As a part of evaluation of the training programme, various training performance indices were worked out and found that the participants were very much satisfied about the way the programmes were conducted as indicated by high training management index. The variance for all the programmes was found to be above 10 per cent indicating acceptance of the programmes by the women participants, which is also an ISO 9001:2000 norm.

RESULTS

Impact of training on knowledge and skill level of the respondents

The trained women have enterprised themselves in to preparation of cocoon handicrafts, production of vermi compost, rearing young age silkworms on commercial basis. Almost 15% of the women trained in different programmes have ventured in to setting up of new business units. The ventures initiated by the trained women were provided with necessary support and guidance under Catalytic Development Programme (CDP) so that the beneficiary continues in the business.

Follow up: The staff of Regional Sericulture Research Station and Research Extension Centres (REC) of Central Sericultural Research and Training Institute, extension units of State Sericultural Department; Non Governmental Organisations functioning in the target area are being utilized in providing post training support in establishing the production units by the trainees provide critical inputs and to up grade the technologies practiced by the existing entrepreneurs.

Impact: The demand for programmes which directly helps in creating enterprises in rural areas in sericulture sector has been steadily increased. The successful women after setting up of own business ventures are providing employment to 10-15 people in the village through out the year, thus contributing to economic development.

Future potentiality: Similar training programme may be planned in new areas covering those who have not covered. The programme has its worth as it provides scope for employment creation and income generation among the farming community in addition to making women strong economically. It also develops leadership skills and managerial abilities among farm women.

Table 1. Number of women trained under various programmes since inception of the project

Programmes	Karnataka			Tamil Nadu			Andhra Pradesh			Kerala			Maharashtra			Total			Grand total
	2004-05	2005-06	2006-07	2004-05	2005-06	2006-07	2004-05	2005-06	2006-07	2004-05	2005-06	2006-07	2004-05	2005-06	2006-07	2004-05	2005-06	2006-07	
1. Integrated nutrient and disease management in mulberry by eco-friendly approach	25	33	05	25	40	56	20	15	17	0	0	0	0	0	0	70	127	78	275
2. Young Age Silkworm Rearing	84	37	32	34	19	38	12	14	21	0	0	38	0	0	0	134	198	129	461
3. Composite Silkworm Rearing	08	0	0	18	10	18	26	0	0	0	0	0	54	0	0	54	29	18	101
3. Integrated Pest & Diseases Management-An eco–friendly approach with bio pesticides, bio fungicides and botanicals	07	27	0	10	08	30	12	0	05	0	5	0	20	0	0	49	98	35	182
4. Silkworm Seed Production	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	8	0	0	08
5. Value addition to byproducts of sericulture by better resource management	182	138	92	28	18	53	5	22	17	38	0	0	0	12	0	252	236	162	650
6. Drudgery reduction through ergonomically sound appliances / hand tools	0	0	0	10	22	26	10	0	0	0	0	0	0	0	0	20	34	26	80
Total	**306**	**235**	**129**	**133**	**117**	**221**	**61**	**51**	**60**	**64**	**5**	**38**	**20**	**12**	**0**	**587**	**722**	**448**	**1757**

Note: 2006-07: Till December 2006

Table 2. Evaluation of courses under Seri-technology complex for women

Sl. No.	Name of programme	Training utility (%)	Training efficiency (%)	Training facility (%)	Course coverage index	Training management index	Variance
1.	Young age silkworm rearing	81.90	88.30	86.50	80.50	85.30	22.30
2.	Composite silkworm rearing	92.40	93.40	92.20	90.00	92.32	29.50
3.	Integrated nutrient & disease management in mulberry by eco friendly approach	92.20	92.33	90.30	85.00	90.00	27.40
4.	Integrated Pest and Disease management – An eco friendly approach with bio-pesticides, bio-fungicides Botanicals	93.50	93.90	93.50	89.35	92.80	30.80
5.	Value addition to by products of sericulture industry by better resource management	89.30	88.50	91.80	80.40	89.20	26.70
6.	Drudgery reduction through Ergonomically sound appliances / hand tools	74.90	75.60	70.10	74.30	73.70	11.20
	AVERAGE	87.33	88.67	87.40	83.25	87.22	24.65

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