



Group approach and technology adoption – A case study in Sericulture

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Abstract

In sericulture extension the importance of social network for diffusion of information particularly among rural women remain untargeted. Formation of sericulture women group would increase women's participation capacity, motivation to learn, share experiences and feelings and subsequently increasing their inner strength and group solidarity ultimately leading to their empowerment. Women also acquire good bargaining power through participation in-group activities. Organizing and conducting technology demonstrations and group discussions locally at their homesteads entrusts them with space to participate, learn new technologies and adopt the same for increased production of quality and quantity of cocoons over and above the existing levels.

Key words: Group approach, sericulture, women, sericulture, technology adoption

Introduction

Sericulture is a family enterprise, where all family members irrespective of their age, gender and educational qualification participate and contribute for the production of cocoon. Sericulture provides employment to the aged, unemployed youth, school drop outs and women. The industry is highly suitable for rural women because of the nature of activities being carried out at their homesteads or nearby homesteads. This helps them to balance both sericulture activities as well as their regular household activities such as cooking, looking after the domestic animals, rearing of children etc. Participation of women in sericulture activities as old as the industry itself. According to the recent statistics 60 % of the sericulture activities are being carried out by women folk. In spite of her mammoth participation in the industry it has never brought women recognizable or noticeable changes in her socio economic status. Even today women are not being treated as a 'Sericulture farmer', or Productive partner in the industry she is simply relegated to the back. The Policies and Programmes of state and central sericulture departments could not achieve the gender justice to sericulture women due to prevailing social norms, customs, traditions and patriarchy. These prevailing social milieu many a time barred women from utilizing the various facilities including access to sericulture extension.

Recent changes in the global market demands the production of quality cocoons for sustainability of the silk Industry. Development of new technologies, transfer of technologies, adoption of the technologies and farmer friendly policies are the need of the hour to tackle the issue to a greater extent. Women targeted extension approaches needs to be evolved at this juncture to bring a justice to her colossal participation, which is as high as 60% in silk industry.

Generally rural women have less or limited physical mobility as compared to her male counterparts because of prevailing social environment, which has excluded her from the present extension services. Non-possession of the assets is another reason for women's lack of access to extension facilities. With this backdrop the present study was undertaken to overcome the above hurdles by orienting the project as women centered – group approach for sericulture technology transfer. As it is already established that self help groups are major contributors in rural transformation more particularly with rural women. People in a similar occupational tend to be cohesive and group action is often found successful in confronting common problem. Hence in this project the investigator attempted to experiment the self help group or group approach to transfer the sericulture technology with the following objectives.

Objectives

1. Skill development among sericulture women on improved silkworm rearing and mulberry cultivation technologies.
2. Promote sericulture based self employment among rural sericulture women for additional income.
3. Create awareness about the available resources/inputs through different government departments/institutions for effective utilization and increased output.
4. Finally to improve the yields of cocoons and income of the farmers in sericulture.

Methodology

The study was taken up in a selected village Ittasandra, which is located in Nandagudi Hobli of Hoskote taluk, Bangalore rural district. Initially a survey was conducted to understand the village and participation profile of sericulturists. Later a total of 20 sericulture practicing women were selected for the study. Group discussions were held with the selected sericulturists to appraise the group method, benefits of being a sericulture group member and etc. A bench mark survey was conducted to understand the socio economic status and knowledge and adoption levels of sericulture technologies. The administered benchmark survey schedule included selected new technologies such as

1. Cultivation of new mulberry varieties
2. Wider spacing of mulberry gardens
3. Application of recommended dosage of fertilizers
4. Application of Farmyard manure and vermin compost
5. Drip irrigation
6. Complete disinfection and disinfection schedule
8. Required bed spacing
9. Usage of bed disinfectants and
10. Use of new mountages (Plastic collapsible or rotary mountages)

Then based on bench mark survey technologies not aware and not adopted were listed out to disseminate through suitable extension communication method. The extension communication methods such as group discussions, demonstration of technologies, awareness programmes, Farmers meet, farmers study tour and two days technology upgradation training programmes were conducted to make farmers understand the technologies not known to them. After the completion of project a feed back analysis was made to observe the aftermath effects of technology transfer through group in terms of enhanced knowledge and adoption of technologies not known and lesser known to women sericulturists. The data was analyzed by using descriptive statistic method.

Results and Discussion

Socio economic and personal profile of sericulture group members

The profile of sericulture group members has been studied in terms of age, marital status, family size, caste and sericulture experience. The findings related to this has been presented in table-1.

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Please Insert Table-1 Here

The data in table-1 reveal that majority of the sericulture women group members(60%) belonged to the middle aged potential and productive age group from 25- 45 years followed by young (24%) and old (16%). The maximum number of group members was married (97%), while only 3 percent were unmarried. Most of the sericulture women group members were literates (64%) and remaining 36 percent were illiterate. Majority of the group members belonged to the qualification of the members were as follows primary school (13%), Middle school (10%) high school (27%) PUC (11%), Graduate & Post Graduate (3%). It is indicated from table(1) that 58 percent of the group members were found to have sericulture experience upto 10 years, where as 54 percent were having from 10-20 years and 8% percent 20 years and above. Majority of the group members (72%) belonged to Vokkaliga caste followed by backward caste (17%) and schedule caste (1%). The maximum group members belonged to nuclear family (93%) and only 7 percent were in joint family system due to the sociological changes taking place in the family, society and nation at large presently. It was found that majority of the group members (95) were in the category of small farmer with a total land holding of less than two acres. Also majority group members had planted mulberry in less than two acres (85%). Most of the farmers (95%) harvested an average cocoon yield 50-65 kgs/100 dfls.

The results indicated in the above table clearly show that sericulture is more accepted and practically taken up by small families with a family size of 3-5 members. It disproves the earlier conception that sericulture is more suitable for joint families as it provides employment for unemployed and aged. In the present context, it can be said that sericulture as an agro based rural industry is very well suited for small family with lesser land holding for regular income compare to other agro based industry including agriculture. The above table also provides a clear picture for a conclusion that majority of the sericulture practicing women are new entrants to sericulture industry with an experience of less than 10 years. They are the target group for sericulture extension personnel in terms of both transfer of technology and empowerment besides sericulture human resource development.

The field observation gives an evidence for collapsing of some social institutions such as joint family system, caste system beside fragmentation of land. This could be the one of main reason for prevalence of smallholdings with nuclear families in the rural area. Obviously the rural households are left with no free or extra male family member to shoulder the sericulture activities. And for this reason the women members in the family were forced to take up the responsibility of rearing of silkworms beside routine work attached to her *viz* upbringing of children, cooking and looking after domestic animals etc. Presently they are overloaded and overburdened with many

responsibilities which hold them back from participation in extension communication activities which are mainly meant for and used for transfer of technologies. At this juncture extension personnel need to understand the situation and organize training or extension communication programmes at a place feasible and convenient for rural women participation.

Technology adoption by group members

In order to understand the adoption level of sericulture technologies by sericulture women group member, a detailed interview schedule was prepared which included the main technological aspects such as cultivation of new mulberry varieties, wider spacing of mulberry gardens, application of recommended dosage of fertilizers, application of farmyard manure and vermin compost, drip irrigation, complete disinfection and disinfection schedule, required bed spacing, usage of bed disinfectants and, use of new mountages (Plastic collapsible or rotary mountages) etc was administered to all group members before conducting any extension communication programmes. The benchmark survey on the adoption levels of technologies is indicated in table (2).

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Please Insert Table-2 Here

The data presented in Table-2 showed that majority of the sericulture technologies were found to adopt partially by women group members. To mention a few are manure and fertilizer application (100%), plant spacing (90%), maintenance of hygiene (95%) and mounting (90%). The technologies found adopted fully are bed disinfection (65%), harvesting of cocoon (45%), bed spacing (45%), disinfection (40%), management of uzi (35%), management of mulberry pests (40%)

Looking at the participation levels of women in sericulture and time spent on each activity, few important activities were taken into consideration and worked out a methodology to make them understand and adopt the technologies partially adopted. The main technologies selected for creating awareness, educating and enhancing skills are maintenance of hygiene, disinfection, mounting, bed disinfection, bed spacing and management of uzi. Group discussion were conducted on importance of bivoltine rearing, new mulberry varieties available.

Technology demonstrations were conducted on proper disinfection and maintenance of hygiene in which demonstrated the preparation of different disinfectant solutions and disinfection. Bed spacing, bed disinfection, usage of mountages and mounting care. Awareness program on control measures for common silkworm diseases.

Farmers meet was conducted to provide common platform for all nearby Sericulturists to gather interact and witness new technologies evolved. In the farmers meet more emphasis was given on agronomical packages for mulberry cultivation, disinfection, integrated pest management, integrated nutrient management in mulberry gardens, silkworm rearing and mounting care. Many farmers including women farmers across the taluk participated in the programme and reaped best benefits out of it.

Beside above mentioned extension communication activities farmers were also taken to country's best cluster V. Kota located in Andhra Pradesh to witness bivoltine sericulture on farmers study tour programme. The farmers were taken to progressive farmers mulberry gardens and rearing houses which convinced them to a maximum level and inspired to follow their footsteps to reap maximum economic benefit out of sericulture activities.

After completion of technology demonstrations through different extension communication programmes, a feed back survey was conducted to understand the impact of technologies demonstrated on adoption levels. According to data indicated in table-2, few technologies were found higher adoption levels after intervention as compared to bench mark values. The technologies which were found to be adopted fully after the intervention were disinfection (90%), maintenance of hygiene (90%) bed spacing (90%) maintenance of temperature and humidity (95%), bed disinfection (80%), mounting (80%) and harvesting (90%).

Inferences and Recommendation

The study concludes that demonstration of technologies through different extension methods in a group was resulted in educating and creating awareness and higher understanding of the technology besides providing platform for free interaction with extension worker. It is clear from the study that the dissemination of the technologies is easier and faster by adopting group approach methodology. Further the adoption of the technologies by the farmers had socio economic impacts on other spheres of their livelihoods such as increased yield of cocoon and income thereon.

Dissemination of technologies through groups was observed to lead to achievement of higher cocoon yield. The policy makers may think of formation of women groups in every sericulture clusters across sericulture states.

There is need to enhance the group approach in order to improve on farmers perceptions, attitude on new technologies and adoption thereon. Groups can be used as working teams for dissemination of crucial technologies as well as empowerment hubs.

Annexure

Table-1: Personal profile of sericulture women in group

Sl No	Variable	Percentage
I	Age	
	Less than 25	24
	25-35	42
	35-45	18
	45-55	6
II	55 & above	10
	Marital Status	
III	Married	93
	Not married	07
III	Education	
	Illiterate	36
	Primary school	13
	Middle school	10
	High school	27
	PUC	11
	Graduation & Post Graduation	3
IV	Family Size	
	Below 3 member	26
	3 to 5 member	67
	5 & above member	7
V	Caste	
	Vokkaliga	72
	Backward caste	27
	SC/ST	1
VI	Sericulture Experience	
	Less than 10 yrs	58
	10-20 yrs	34
	20-30 yrs	7
	30 yrs & above	1
VII	Silkworm race reared	
	Cross breed(pure)	100
VIII	Total land holding (ac)	
	Less than 5	95
	5-10	05
IX	Land under mulberry (ac)	
	Less than 2	85
	2-4 acre	15
X	Yield/100 dfls (avg)	
	50-60 kgs	65
	60-65	30
	65 and above	05

Table-2 Technologies adopted by group members

#	Technology	Before intervention (%)		After intervention (%)	
		Full	Partial	Full	Partial
1	Spacing (3x3 or paired row system)	10	90	10	90
2	Manure application	0	100	0	100
3	Fertilizer application	0	100	0	100
4	Disinfection	40	60	90	10
5	Hygiene	5	95	90	10
6	Bed spacing	45	55	90	10
7	Maintenance of tempt & humidity	25	75	90	10
8	Bed disinfection	65	35	95	05
9	Mounting	10	90	80	20
10	Harvesting	45	55	90	10
11	Uzi management	35	65	35	65
12	Mulberry pest management	40	60	40	60
13	Yield/100 dfls (avg)				
	50-60 kgs	65		55	
	60-65	30		40	
	65 and above	05		05	