

## Analysis of utilization pattern of seri –byproducts among sericulturists in Kolar district

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### ABSTRACT

The study was conducted in two taluks of Kolar district in Karnataka state. From each taluk three prominent sericulture villages were purposively selected. A sample of 120 sericulturists and from each village 20 sericulturists were selected by simple random technique. The findings revealed that the most utilized seri- byproducts namely, fodder (3 mean score), fuel (3), compost (2.73), biogas (1.83), timber wood (1.55), fruit (1.34), vermicompost (1.33) and mulberry tea (1.00) were in the order of preference. Fodder and fuel were most frequently utilized as seri-byproduct by cent per cent of the respondents followed by compost (84.17%). Correlation analysis between overall utilization pattern of seri-byproducts and various independent variables of the respondents exhibited positive and significant relationship with educational status, farm size, annual farm income, experience in seri-farming, silkworm rearing intensity, extension contact and livestock possession. Hence, various extension educational activities could be taken up by the extension agencies to educate the sericulturists about proper utilization of seri- byproducts which will in turn generate employment and additional income.

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### INTRODUCTION

Sericulture in India is a cottage industry and Karnataka leads the country with its mulberry raw silk production of 8.24 mts (Anonymous, 2008). Kolar is one of the traditional districts in sericulture covered in all most all the taluks. Sericulture industry comprises of 4 to 5 major activities from soil to fibre viz. mulberry cultivation, silkworm egg production, silkworm rearing, silk reeling and twisting, weaving, dyeing, printing and finishing of fibre. Each major activity results in a marketable product which forms the basic raw materials for the next activity in the series. Mulberry cultivation results in production of leaf and seed in eggs. Both of these put together in cocoons, the major marketable product for farmers. Cocoons purchased by reelers are reeled to produce silk yarn which is sold to weavers for profitable production. At the end of each activity, inevitably large amounts of byproducts are generated (Dandin and Rajan, 2005).

It has been estimated that while consuming 42 kg of leaves by 1000 larvae, only 22.5 kg is ingested by larvae and rest goes as waste and out of the ingested food about 13 kg is left unutilized and is excreted out as silkworm litter. Thus, in the whole cycle, a substantial quantity of residual mulberry leaves,

unwanted silkworm larvae, pupae moth and silk are available as byproducts utilization (Singhal *et al.*, 2005). Effective utilization of these products for value addition has enormous scope for generating additional income and employment in this silk based cottage industry. But the sericulturists have not utilized, these byproducts to the full extent. Hence, it is essential to study the utilization pattern of seri-byproducts which inturn helps to formulate appropriate extension methodologies and communication strategies for effective dissemination of scientific information about sericulture enterprise. With this background, the present study was designed with the following objectives: to know the extent of utilization pattern of seri-byproducts by sericulturists and to find out the relationship of seri-byproducts utilization pattern with personal and socio-economic characteristics of sericulturists.

### METHODOLOGY

The study was conducted in two taluks of Kolar district. From each taluk, three prominent sericulture villages were selected purposively. A sample of 120 respondents were selected and 20 from each village were drawn by simple random technique. The data were collected by personal interviews through

### Key words :

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a well structured pretested interview schedule. The seribyproducts in each activity of sericulture were listed from available literature. Only eight byproducts of mulberry cultivation and silkworm rearing were identified through consultation with sericultural experts in University of Agricultural Sciences, Bangalore and progressive sericultural farmers of the district. To assess the extent of utilization of seribyproducts, the responses against each byproduct were recorded on three point continuum categories namely “very frequently”, “frequently” and “not frequently” with assigning numerical scores of 3, 2 and 1, respectively. Suitable statistical tests were used for analysis of data.

**RESULTS AND DISCUSSION**

The findings of the present study have been summarized under following heads:

**The extent of utilization of sericulture byproducts:**

The data in Table 1 revealed that the respondents utilized sericultural byproducts mostly for fodder (3 men score) and fuel (3.00) followed by compost (2.73), biogas (1.83), timber/wood(1.55), fruit(1.34), vermicompost (1.33) and mulberry tea (1.00), in order of preference.

Fodder and fuel were the most frequently utilized seribyproducts by cent per cent sericulturists followed by compost (84.17%). Sericultural byproduct was frequently utilized for biogas production by the respondents (47.50%). Cent per cent of the respondents have not utilized the mulberry tea frequently. Such trend was noticed due to inter dependence of dairy, animal husbandry, agriculture and other enterprises with sericulture. The burning properties and energy generation of mulberry shoots are better than any other agricultural residue (Dandin and Rajan, 2005). The rich protein and carbohydrate contents of mulberry leaves and enhanced milk yield after feeding such waste to milching cows might have attracted sericulturists to use mulberry byproducts

as feed source to animals.

**Relationship between characteristics of the farmers with the extent of seribyproducts utilization :**

It is interesting to observe that out of 11 characteristics studied, the correlation values of eight characteristics were found to have significant relationship with seribyproducts utilization pattern of sericulturists except variables viz., age, social participation, mass media exposure and risk orientation which were non-significant (Table 2). This implies that the respondents having larger size of land, education, annual farm income, experience in seri farming, silkworm rearing intensity, extension contact and livestock possession have high level of seribyproducts utilization. These findings are in line with that of Mohammad Azaz-il-Islam (2008).

**Table 2: Relationship between characteristics of the farmers with the extent of seribyproducts utilization**

Sr. No.	Characteristics	Correlation co-efficient
1.	Age	0.0836
2.	Educational status	0.3749**
3.	Farm size	0.5823**
4.	Annual farm income	0.6251**
5.	Expence in seri-farming	0.4762**
6.	Social participation	0.0260
7.	Silkworm rearing intensity	0.6324**
8.	Extension contact	0.5461**
9.	Mass media exposure	0.0346
10.	Risk orientation	0.0278
11.	Livestock possession	0.6241**

\*\*indicates significance of value at P= 0.01

**Conclusion:**

It implies that the byproducts from different activities of sericulture have not been utilized effectively by the sericulturists. Only few byproduct viz., fodder and fuel

**Table 1: Utilization pattern of seribyproducts by sericulturists (n=120)**

Sr.No.	Seri-byproducts	Extent of utilization						Mean score	Rank order
		Very frequently		Frequently		Not frequently			
		No.	%	No.	%	No.	%		
1.	Fodder	120	100	0.00	0.00	0.00	0.00	3.00	I
2.	Fuel	120	100	0.00	0.00	0.00	0.00	3.00	I
3.	Fruit	09	7.50	23.00	19.17	88.00	73.33	1.34	V
4.	Timber/wood	16	13.33	34	28.33	70	58.34	1.55	IV
5.	Tea	0	0.00	0.00	0.00	120	100.00	1.00	VII
6.	Biogas	21	17.50	57	47.50	42	35.00	1.83	III
7.	Compost	101	84.17	12	10.00	0.00	0.00	2.73	II
8.	Vermicompost	11	9.17	17	14.17	92	76.67	1.33	VI

were utilized frequently followed by compost and biogas. For this purpose, extension activities like trainings, discussion meetings, demonstrations, field days could be organized by the extension agencies to educate the farmers. This will facilitate for effective utilization of seribyproducts which inturn will generate additional employment and income for sustainability of the sericulture industry.

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