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D Elumalai

Department of Sericulture,
Forest College and Research
Institute, Mettupalayam, Tamil
Nadu, India

KA Muruges

Department of Sericulture,
Forest College and Research
Institute, Mettupalayam, Tamil
Nadu, India

An economic analysis of marketing cost of cocoon and constraints faced by sericulture farmers: A study in the district of Dharmapuri in Tamil Nadu

D Elumalai and KA Muruges

Abstract

The present study was conducted in Dharmapuri district of Tamil Nadu. With these objectives, 90 farmers were randomly selected from Pappireddipatti, Pennagaram and Dharmapuri blocks. It was found that the marginal farms spent less on the marketing of cocoon followed by small and big farms. The expenditure on the marketing of 100 kg of cocoon was Rs.473.44 in big farms whereas it was Rs.384.99 in marginal farms and Rs. 418.46 in small farms. Big farms are high marketing than compared with small and marginal farms. The study concluded that in constraints faced by the sample in mulberry cultivation, silkworm rearing and marketing of cocoon. It indicated that all the sericulture farmers' labour scarcity and high wage rate as the main problem in mulberry cultivation. An analysis of the production and marketing constraints faced by the respondents in sericulture indicates that water scarcity, high wage rate, and incidence of pests and disease were the major constraints in production while price fluctuation was the major constraints in marketing.

Keywords: sericulture, economics, mulberry, cocoon, marketing

1. Introduction

Sericulture is one of the rural-based agro industries with global reach. Some unique features of the Sericulture Sector are its rural nature, ecologically and economically sustainable activity for the poor, small and marginal farmers, agricultural labour and women in particular ^[1]. Sericulture is a labour intensive industry in all its phases. The industrial production of raw silk and fabric employs a large number of semiliterate and semi skilled poor workers throughout the year. Thus, a large portion of the cost incurred in the conversion of soil to silk reaches poor workers involved in the value addition at each stage like cocoon production, silk reeling, fabric production, dyeing and printing ^[2]. Sericulture industry is therefore, discretely helping in building an egalitarian society in highly populous countries like India and China. Sericulture plays an important role in the transformation of rural economy as it assures regular employment and periodic returns round the year ^[3]. Tamil Nadu is one of the progressive states of India with great potential development for mulberry crops. The state is blessed with the agro-climatic region suitable for growing variety of mulberry all around the year in Tamil Nadu. The total area under mulberry has increased to 16852.20 hectares in 2013-2014 (Handlooms, Handicrafts, Textiles and Khadi Department, Tamil Nadu). Therefore, the present study was aimed at following objectives

1. To work out the marketing costs and margins for cocoon; and
2. To analyze the production and marketing constraints in cocoon

2. Materials and Methods

This study was carried out in the major silk producing state in India, namely Dharmapuri District of Tamil Nadu was selected for data collection based on the area under marketing cost of cocoon and constraints faced by mulberry cultivation, silkworm rearing and marketing of cocoon. The data collection three blocks was Pennagaram, Pappireddipatti and Dharmapuri taluks ranked the first three places according to the area under mulberry. From the above three taluks, the blocks having a maximum area under mulberry were selected. Accordingly Pennagaram Pappireddipatti and Dharmapuri block were selected for detailed study. Ninety farmers accounting for 2.20 per cent of total farmers were selected and these ninety farmers were distributed among the blocks based on probability proportion to the total number of

Correspondence

D Elumalai

Department of Sericulture,
Forest College and Research
Institute, Mettupalayam, Tamil
Nadu, India

farmers in the blocks. The data collected were tabulated and subjected to percentage analysis. Hence to arrive at a realistic estimate, the sample farms were post stratified into three size groups viz., marginal, small and large farms based on the size of holding. Those who owned below 1.0 hectare were reckoned as marginal farms, between 1.0 hectare, 2.0 hectares as small farms and above 2.0 hectares as large farms. The average size of the mulberry garden in the sample was 0.42 ha in marginal farms, 0.48 ha in small farms and 0.60 ha in large farms. The Primary data on economic aspects viz., marketing costs and sericulture farmers faced by problems were collected and randomly selected from the sample farmers through personal interview method by using pre-test interview schedule for pilot study. Garrett's ranking techniques was adopted to analyse the problems faced by farmers in production and marketing of cocoon [4].

3. Results

3.1 Marketing cost of cocoon

The results of the marketing cost of cocoon given in Table 1

Table 1: Marketing cost of cocoon (Rs.100Kg)

S.No	Size group	Transportation charges (Rs.)	Preparation to the market (Rs.)	Miscellaneous charges (Rs.)	Total cost of marketing (Rs.)
1	Marginal	210.63 (54.71)	117.77 (30.59)	56.59 (14.69)	384.99 (100.00)
2	Small	225.13(53.79)	129.55 (30.95)	63.78 (15.24)	418.46 (100.00)
3	Large	265.38 (55.05)	139.19 (29.39)	68.87 (14.54)	473.44 (100.00)

(Figures in parentheses indicate percentages to total)

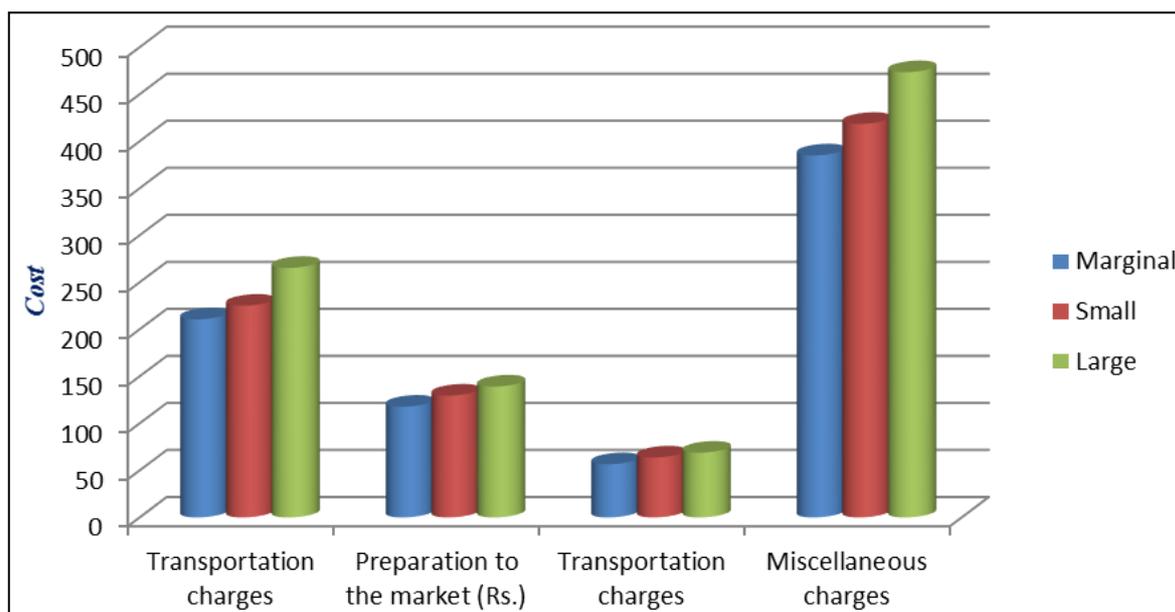


Fig 1: Marketing cost of cocoon in 100kgs

3.2 Problems in mulberry cultivation

The sample farmers were asked about the various problems faced by them in mulberry cultivation. The identified problems were listed out and the farmers were asked to rank the problems. Garrett's ranking techniques was used to find out the final ranks and the results are presented in the Table. 2 & Fig 2. In the present study, main problems which were observed was scarcity of water (90.61), incidence of pest (88.91), scarcity of labour (88.28), high wage rate (86.85) and incidence of disease (86.60).

& Fig 1. The marginal farmers incurred a lower marketing cost as compared to small and large farmers. Marketing cost included preparation to the market like the harvesting of cocoons, cleaning, bagging, transportation and miscellaneous expenditure which included the personal expenses in connection with the visit to the cocoon market. A large share of the marketing cost was accounted for transportation charges in all the three size of groups. It formed 54.71, 53.79, and 55.05 percent for marginal, small, large farms respectively. Cost of preparation to the marketing cost account for 30.59, 30.95 and 29.39 percent in marginal, small and large farms. Miscellaneous charges accounted for 14.69, 15.24 and 14.54 percent in marginal, small and large farms. Normally the farmers depended on the Bus, Van and TVS Excel as a mode of transport and the distance normally travelled was Pappireddipatti to Dharmapuri 34 kilometers and Pennagaram to Dharmapuri for 25 kilometers. Some occasions four or five farmers combined together and hired the vehicle for transportation.

Table 2: Problems in mulberry cultivation

S. No	Particulars	Mean score	Rank
1	Scarcity of water	90.16	I
2	Incidence of pest	88.91	II
3	Scarcity of labour	88.28	III
4	High wage rate	86.85	IV
5	Incidence of disease	86.60	V

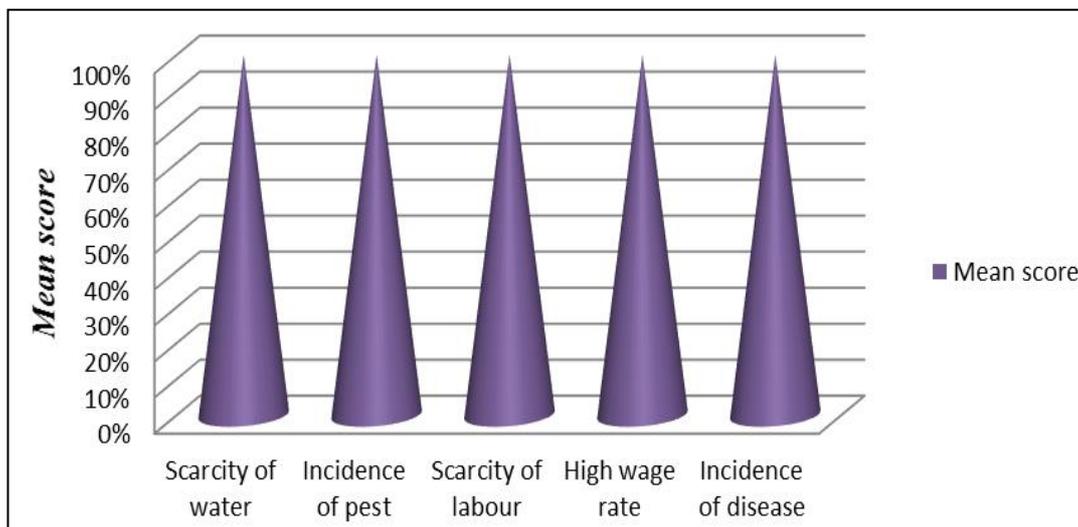


Fig 2: Problems in mulberry cultivation

3.3 Problems in silkworm rearing

The farmers in the study area faced several problems in the silkworm rearing. Hence it was decided to study the major constraints in silkworm cocoon production in the study area. The Ten constraints identified by the sample silkworm cocoon producers were ranked using Garrett’s ranking techniques and the details are furnished in the Table 3 & Fig 3. In the present study main constraint which was observed was incidence of pests and disease followed by climate change (which reflects on monsoon and raining pattern), scarcity of labour and lack

of Technical guidance.

Table 3: Problems in silkworm rearing

S. No	Particulars	Mean score	Rank
1	Incidence of pests and disease	89.00	I
2	Climate change	88.44	II
3	Scarcity of labour	87.13	III
4	Lack of technical guidance	86.05	IV
5	High wage rate	85.35	V

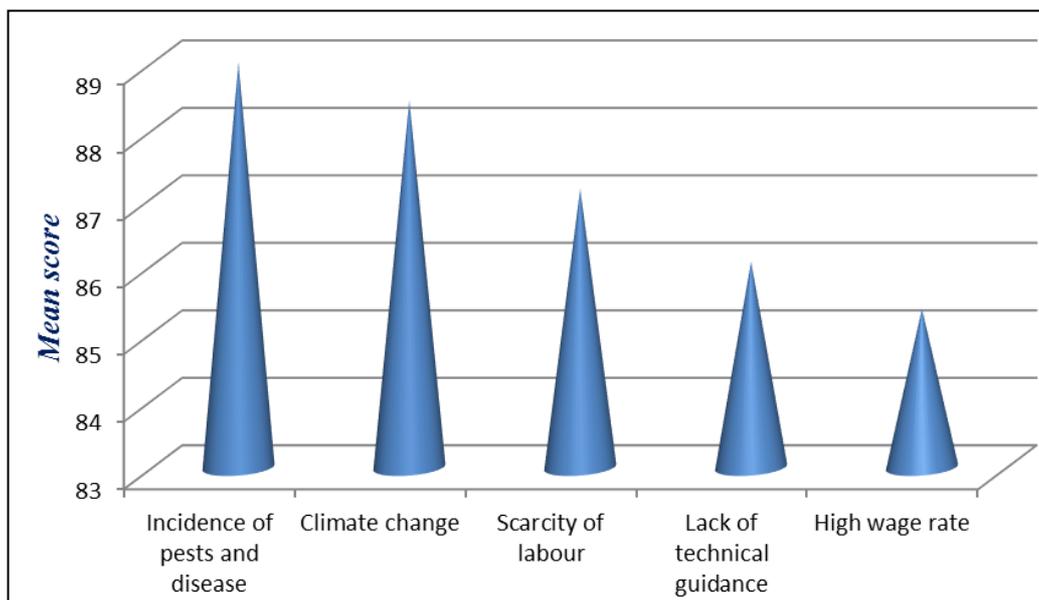


Fig 3: Problems in silkworm rearing

3.4 Problems encountered in marketing of cocoon

The silkworm cocoon producers in the study area faced ten major marketing constraints which were identified and they were ranked using Garrett’s ranking techniques and the results are presented in Table 4 & Fig 4. One of the major problems, which were observed in the study area, was price fluctuation followed Poor information of market trend, Lack of transport facilities, Absence of storage facilities and Long distance to market.

Table 4: Problems in marketing of cocoon

S. No	Particulars	Mean score	Rank
1	Price fluctuation	91.00	I
2	Poor information of market trend	88.27	II
3	Lack of transport facilities	86.88	III
4	Absence of storage facilities	86.22	IV
5	Long distance to market	84.55	V

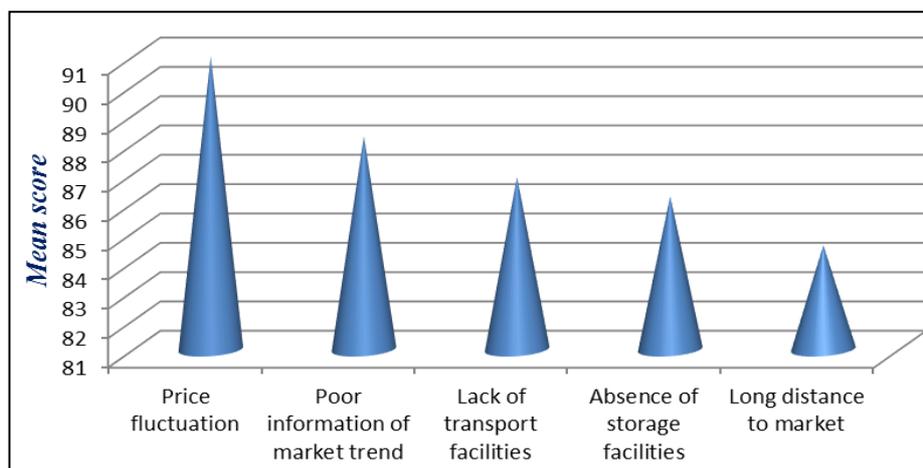


Fig 4: Problems in marketing of cocoon

4. Discussion

The marketing cost of cocoon was Rs.151.40 in marginal farms, followed by Rs.152.35 in small farms and remaining belongs to large farms (Rs.170.94) [5]. The above findings similar was reported in marginal (Rs.384.99), small (Rs. 418.46), and large farmers (Rs.473.44).

The major problems identified in silkworm rearing like the lack of control measures in silkworm pest and diseases, non-availability of labour and lack of technical guidance in farmers were in Coimbatore district [6].

The findings similar in the present study were identified such as pest incidence; shortage of labour and lack of technical guidance is a major problem in the study area. Due to very less rainfall in the study area and unavailability of water for irrigation had made the problem of water requirements which was in line with the study. The monsoon failure was the major problem faced by the farmers in cultivation of mulberry which in turn affects the productivity of the silk rearing [7]. The Salem district of Tamil Nadu, major constraints identified were in mulberry cultivation technologies like the lack of awareness, high cost of inputs and also scarcity of water [8]. The present study finding similar was represented.

The marketing cost of cocoons such as price fluctuation and poor information in market is major constraints identified farmers in Mysore district of Karnataka [9, 10]. Price fluctuation and poor marketing facilities were the major constraints faced by the sericulture farmers which were on par with the findings of the present studies.

5. Summary and Conclusion

The study concluded marketing cost of cocoon and constraints faced by sericulture farmers in Dharmapuri district of Tamil Nadu. The finding indicates that marketing cost higher in large farms followed by marginal and small farms. In major constraints identified in the study area of sericulture farmers like the water scarcity, pest and disease incidence, high wage rate, climate change, scarcity labour, price fluctuation in cocoon and poor information of market. The study helps to know ways and means reduce the problems, the farmers should be motivated and water scarcity of field should be farmers drip irrigation. The farmers should be educated about optimum use of inputs, such as inorganic fertilizer, pesticides and motivated to use of INM/IDM/IPM approaches. To encourage bivoltine sericulture, scope for minimum support price for commercial bivoltine cocoon should be looked into.

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