Original Research Article

ECONOMIC ANALYSIS OF SERICULTURE IN NAGPUR DISTRICT

ABSTRACT

The study is an attempt to assess the silkworm cocoon production and its profitability in Nagpur district of Maharashtra through structured survey during 2017-18 with a view to know socio economic characteristics of mulberry growers such as family type, education, family size, education status, land use pattern, and cropping pattern etc. were studied. Data pertains to the year 2017-18. The data were collected by using the multipurpose sampling design. The study was based on total 60 mulberry growers. It states that, the average size of the family worked out to 5 individuals per households. Out of which 2 mens, 2 women and 1 children. Whereas 6.66 per cent illiterate and 93.34 per cent are literate. The possession of average land holding was 2.06 hectares. The gross cropped area was 3.73 hectares. The cropping intensity was found to be 195.28 per cent. In 2017-18 total area under mulberry cultivation in Nagpur district is 285 acre and per acre production of silk cocoon is 1.666 kg/yr. (District Sericulture Office, Nagpur).

KEY WORDS : Sericulture, Socio-economic characteristics, Nagpur district.

1. INTRODUCTION

The word “sericulture” is derived from the Greek word “sericos” meaning “silk” and “culture” meaning “rearing”. Sericulture is an art and science of rearing of silkworms to produce cocoons and silk .In recent years, sericulture has come to be recognized as one of the most important, rural agro-based, providing occupation. To grow the industry, Central Silk Board is giving assistance in training, research and various schemes of funds to boost the sericulture in Maharashtra. Mulberry raw silk production is mainly distributed in Karnataka, Andhra Pradesh and Tamil Nadu in the tropical belt, and West Bengal and Jammu and Kashmir in the sub-tropical and temperate zones respectively. Among these non-traditional states Maharashtra stands first in silk production. India is

the second largest producer of silk in the World. In west Maharashtra and Vidarbha, production of mulberry is getting importance and area of mulberry cultivation is increasing in this region. In Vidarbha region of Maharashtra state, particularly Gadchiroli, Bhandara, Gondia and Chandrapur district tasar sericulture is carried out on Yen and Arjun trees. Especially in Vidarbha (Silk and Milk) concept is held together. In Maharashtra state 18 districts motivate mulberry sericulture while only 4 districts (Gadchiroli, Bhandara, Gondia, Chandrapur) are involved in tasar sericulture.(Borkar, 2011).

Sericulture is an important agro-based rural industry that helps rural economy and generates higher income and employment. It is practiced in wide range of agro-climatic regions like forests, hilly areas and plains. Sericulture is an important means for the socioeconomic development of the rural sector. It is a highly labour intensive, profit oriented, low input indoor activity that gives frequent periodicity of economic returns. Silk is the Queen of textiles, luxury, elegance, class and comfort. Silk is made up of proteins secreted in the fluid state by a caterpillar, popularly known as “silkworm”.

2. METHODOLOGY

The study is based on Primary data. For the study, six sericulture villages viz., Karhandla, Pachkhedi, Rengatur, Bhandarbodi, Salaimeta and Borda from Kuhi and Ramtek tehsils were selected from Nagpur District and from each village, 10 farmers were selected purposively. The data on various factors such as age, educational status, farm size, family type, education status, land use pattern, and cropping pattern with respect to mulberry cultivation and silkworm rearing technologies and constraints faced by farmer were collected through personal interview method by preparation of pre-tested schedule as followed by Jayaprakash et al. (2008).

3. RESULTS AND DISCUSSION

Various socio-economic aspect of sample farmers such as family type, education, family size, education status, land use pattern, and cropping pattern etc. were studied.

Table 1: Family type of selected farmers (n=60)

Sr. No.	Family Type	No. of families

1	Nuclear (Below 4)	49 (81.66)
2	Joint (5-10)	11 (18.34)
	Total	60 (100.00)

(Figure in parentheses indicate the percentage to total)

Table 2: Family size of selected farmers

Sr. No.	Particulars	Average
1	Male	2 (40.00)
2	Female	2 (40.00)
3	Children	1 (20.00)
4	Total	5 (100.00)

(Figure in parentheses indicate the percentage to total)

Table 3: Educational pattern of selected farmers (n=60)

Sr. No.	Particulars	Farmers
1	Illiterate	4 (6.66)
2	Primary school	4 (6.66)
3	Middle school	2 (3.33)
4	High school	23 (38.36)
5	Higher secondary	16

		(26.66)
6	Graduate & above	11 (18.33)
7	Total	60 (100.00)

(Figure in parentheses indicates the percentage to total)

From table 1 it is revealed that the family type of farmer in which the selected farmers was divided into two types i.e. nuclear and joint family. Out of the 60 farmers 49 were nuclear family and only 11 families were found joint with 81.66 per cent and 18.34 per cent, respectively. It is concluded that, the family size of selected farmers were 2 male (40.00 per cent), 2 female (40.00 per cent) and 1 children (20.00 per cent), respectively. The average total family size of selected farmer was 5.

It is observed from the education profile of selected farmers shown that 6.66 per cent of farmer were found illiterate and rest of them have educated, among them 6.66 per cent farmers was primary school level education and 3.33 per cent, 38.36 per cent, 26.66 per cent farmers had completed their middle school, high school and junior college respectively. Whereas graduate and above level of educated were 18.33 per cent only. The highest number of farmer i.e. 38.36 per cent completed their education up to High school level.

Table 4: Land utilization pattern of mulberry growers

(Area in ha)

Sr. No.	Particulars	Average
1	Total land holding	2.06

		(100.00)
2	fallow land	0.15 (7.28)
3	Net cultivated area	1.91 (92.17)
4	Irrigated area	2.16 (104.8)
5	Unirrigated area	1.57 (76.21)
6	Area sown more than once	1.82 (48.79)
7	Gross cropped area	3.73 (181.06)
8	Cropping intensity (%)	**195.28**

Table 5: Cropping pattern adopted by selected grower

(Area in ha)

Sr. No.	Area	Particulars	Percentage to total
A)	**Kharif**		
1	Cotton	0.41	10.99
2	Tur	0.11	2.94
3	Soybean	0.35	9.38
4	Paddy	0.70	18.76
	Total	1.57	42.08
B)	**Rabi**		
1	Wheat	0.65	17.42
2	Gram	0.60	16.08
3	Vegetable	0.11	2.94
	Total	1.36	36.48

C)	**Summer**		
1	Groundnut	0.40	10.72
2	Total	0.40	10.72
D)	**Perennial Crops**		
1	Mulberry	0.40	10.72
	Total	0.40	10.72
	Gross Cropped Area	3.73	100.00
	Cropping intensity (%)		195.28

(Figure in parentheses indicates the percentage to total land holding)

Land utilization indicates the area of land actually utilize in different purpose like crop production, irrigated, un-irrigated etc. It was observed that, the average size of holding of the selected mulberry grower was 2.06 ha. While the net sown area was 1.91 ha. Which accounted for 92.17 per cent of total land holding. Area sown more than once was 1.82 ha. (48.79 per cent), whereas gross cropped area was 3.73 hectares. The cropping intensity recorded as 195.28 per cent.

It was depicted that, from Table 5 the selected mulberry grower occupied 42.08 per cent area in kharif season (cotton, tur, soybean and paddy) and 36.48 per cent under rabi crops (wheat, gram and vegetable). It revealed that paddy (18.76 per cent) was major crop in kharif season with respect to selected area while wheat (17.42 per cent) was the one of the major crops in rabi in the study area.

Table 6: Position of fixed capital Investment in sericulture

(Assests in Rs.)

Sr. No.	Items	Value in Rs.
1	Buildings	200000.00 (36.76)
2	Machinery and implements	160688.60 (29.55)
3	Livestock	73290.48 (13.48)
4	Well	109952.50 (20.21)
	Total	543931.58 (100.00)

(Figure in parentheses indicates the percentage to total fixed capital investment)

The total area under summer season was 10.72 per cent to gross cropped area. The small area was under groundnut cultivation i.e. 0.40 hectares respectively. Mulberry is perennial crop in which 0.40 hectare area. The total gross cropped area was calculated to be 3.73 hectares. Fixed capital investment in the form of building, well, livestock, implements and machinery, which are normally required for adoption of general cropping pattern. For raising of mulberry garden and rearing of silk cocoon through modernized technique involved additional specialized equipments. The total capital assests held by mulberry grower are presented in Table 6.

The total fixed capital investment under selected sericulture farmers were Rs.543931.58. The Table 6 revealed that, on an average Rs.200000.00 (36.76 per cent) per farm were invested in the building of the selected holding under mulberry grower. Investment in the form of machinery and implements was worked out to Rs.160688.60 (29.55 per cent) under mulberry grower. Livestock contributed lowest share in the total fixed assests (i.e. 13.48 per cent) of the total assests in the case of mulberry grower respectively. The well invested under total fixed capital was Rs.109952.50 (20.21 per cent) respectively.

The result obtained from socio-economic characteristics of sericulture are in close agreement with finding of Manjunath *et al.* (2017) the results showed that number

of adult male and female members constituted 46.14 and 33.41 per cent respectively. Setty *et al.* (2017) revealed that, the respondents 52.42 per cent of them belonged to a family of 3-5 members (Nuclear family) while 37.90 per cent had 6-8 members (Joint family) in their families.

4. CONCLUSIONS

The result of this study leads to the conclusion that, most of the mulberry growers belong to the nuclear family, the educational profile of farmers is above the High school and Land utilization pattern adopted by the mulberry growers it is concluded that, most of the land is under Gross cropped area. From the Cropping pattern adopted by selected grower it is observed that, the mulberry growers are raised the kharif crops and most of their investment are going towards the Buildings. On the basis of result obtained, sericulture found profitable enterprise to farmers and proved the best alternative with crop production. So sericulture venture will triggers the doubling of the farm income.

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