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Impact of Mulberry Cultivation on Beneficiary Farmers in Amravati District, India

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The present study was conducted in Amravati district in the Vidarbha region of Maharashtra state. Six villages were selected from one taluka respectively. The 80 respondents were selected from 6 villages. The data were collected by personal interview method with the help of a structured interview schedule. The data were tabulated, analyzed and interpreted. The variables namely occupation, land holding, annual income, income from sericulture, farming experience, sources of information, training received and marketing facilities are positively and highly significant with social and economic impact at 0.01 level of probability. The variables namely education and extension contact are positively significant with social and economic impact at 0.05 level of probability. Whereas, the age of the respondent sericulturists had a non-significant relationship with the social

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and economic impact of mulberry cultivation. The financial gain by the beneficiaries of mulberry cultivation from one acre per year (4 rotations) was Rs.1,00,000. The majority of the respondent sericulturists faced problems related to the shortage of irrigation water, high labour charges, markets far away from the sericulture unit and lack of knowledge about disease control in mulberry.

Keywords: *Impact; mulberry cultivation; beneficiary farmers.*

1. INTRODUCTION

Sericulture is a cottage industry par excellence with its agriculture base, industrial superstructure and labour-intensive nature. Sericulture has become one of the most important rural industries due to certain inherent advantages like minimum gestation period and expenditure, maximum employment potentiality and quick turnover of investment. Sericulture plays a key role in the upliftment of the rural population both socially and economically [1-4]. In the past two decades, various technologies have been developed both for the improvement of mulberry yield and silkworm rearing technology by the concerted efforts of scientists to overcome the constraints and boost the silk production of the country (Meenal, 2008). Silk is the most elegant textile in the world with unparalleled grandeur, natural sheen, and inherent affinity for dyes, high absorbance, lightweight, soft touch and high durability and known as the "Queen of Textiles" the world over [5-8]. India has the unique distinction of being the only country producing all five known commercial silks, namely, mulberry, tropical tasar, oak tasar, eri and muga, of which muga with its golden yellow glitter is unique and prerogative of India [9-12]. In West Maharashtra and Vidarbha, the production of mulberry is getting importance and the area of mulberry cultivation is increasing day in this region. For successful silk farming, Mulberry cultivation and silkworm rearing should be done scientifically.

2. METHODOLOGY

Present study was conducted in the Amravati district in Vidarbha region of Maharashtra state. For sampling of respondents 80 Mulberry cultivation beneficiaries selected from the Nandgaon-khandeshwar taluka of Amravati district randomly based on area under mulberry cultivation. Total 80 mulberry cultivation beneficiaries were selected from above-mentioned taluka for determining the Impact of mulberry cultivation. The names of villages which

come under the selected taluk were collected from the secondary source. To obtain the desired number of respondents, of villages this comes under Amravati district. Keeping in view the objectives of the study, a structured interview schedule was designed. The data was collected through personal interviews of respondents. The schedule devised for data collection was used for recording of responses from the selected respondents. The respondents were contacted at their homes or on their farms and some at public places.

3. RESULTS AND DISCUSSION

Data presented in Table 1, revealed that among selected characteristics of respondent sericulturists education and extension contact was found to be positively and significantly correlated with social and economic impact at 0.05 level of probability. Whereas characteristics of respondent sericulturists occupation, land holding, annual income, income from sericulture, farming experience, sources of information, training received and marketing facilities was positively significant with social and economic impact at 0.01 level of probability. Therefore the null hypothesis was rejected for these characteristics stating that there exists significant relation between these characteristics and social and economic impact. Whereas, age of respondent sericulturist was not significantly correlated with social and economic impact. Therefore null hypothesis of these variables was accepted.

3.1 Financial Gain by the Beneficiaries of Mulberry Cultivation

The Table 2 indicates that human labour charges for various operations one acre per year was Rs.20,600. Total input charges for various materials was Rs.29,400 and total cost of sericulturists per acre was Rs.50,000. The gross profit obtained by sericulturists per acre are Rs.1,50,000 and a financial gain was Rs.1,00,000 per acre.

Table 1. Coefficient of correlation between profile of respondents sericulturists with their social and economic impact

Sr. No.	Characteristics of the respondent sericulturists	Coefficient of correlation ('r' value)
1	Age	0.1657NS
2	Education	0.2638*
3	Occupation	0.3111**
4	Land holding	0.4210**
5	Annual income	0.4563**
6	Income from Sericulture	0.3345**
7	Farming experience	0.3127**
8	Extension contact	0.2356*
9	Sources of information	0.3648**
10	Training received	0.2798**
11	Marketing facilities	0.4818**

N.S. Non-significant

*significant of 0.05 level of probability

**significant of 0.01 level of probability

Table 2. Financial gain by the beneficiaries of mulberry cultivation from one acre per year (4 rotation)

Sr. No.	Items	Quantity	Price	Value (Rs.)
A) Human labour charges for various operations.				
1	Land preparation	16	200	3200
2	Mulberry planting	20	200	4000
3	FYM and Biofertiliser application	10	200	2000
4	Interculture operations	40	200	8000
5	Silk worm rearing	15	200	3000
6	Shed disinfection	02	200	400
Total		103		20,600
B) Input charges for various materials				
1	Planting material	6000	3	18000
2	FYM	8 qtl.	800	6400
3	Disinfectant powder	10 kg.	100	1000
4	Fertilizers (N:P:K)	100:50:50 Kg		4000
Total				29,400
Total cost (A+B) = 50,000				
C) Gross profit				
1	Cocoons	6 qtl.	250	1,50,000
Total				1,50,000
Gross profit (c) = 1,50,000				
Financial gain = 1,50,000 - 50,000				
= 1,00,000				

Table 3. Distribution of the respondent sericulturists according to their constraints

Sr. No.	Constraints	Respondents (n=80)	
		Frequency	Percentage
A. Supply constraints			
1	Shortage of irrigation water	65	81.25
2	Scarcity of labourers	64	80.00
3	Timely unavailability of fertilizers and other Chemicals	56	70.00
B. Economic constraints			
1	High labour charges	69	86.25
2	High transportation charges	65	81.25
3	High initial establishment cost	63	78.75
C. Technical constraints			
1	Lack of knowledge regarding planting method	57	71.25
2	Lack of knowledge about of bio-fertilizers	59	73.75
3	Lack of knowledge about disease control in Mulberry	65	81.25
D. Marketing constraints			
1	Markets are far away from sericulture units	68	85.00
2	Lack of information about market prices	56	70.00
3	High transportation cost	65	81.25

3.2 Constraints

The information about the constraints faced by the respondents sericulturists in the mulberry cultivation is presented in Table 3.

From Table 3 it is observed that, majority 81.25 per cent of the respondent sericulturists faced constraints regarding the shortage of irrigation water, 86.25 per cent high labour charges, 81.25 per cent lack of knowledge about disease control in mulberry and 85.00 per cent respondents sericulturists faced problems related to markets are far away from sericulture unit.

4. CONCLUSION

This study concluded that there is great scope for extension functionaries and state government to agencies need to carry out educational activities like methods, result demonstrations and other extension methods to educate and to motivate the farmers and increase sericulture production. The scientific sericulture needs to be expanding into prominent states as poverty eradicator measure. It should be adopted as a multi-pronged strategic approach by introducing a technology-based integrated farming model, empowering and capacitating communities to take the lead in the implementation and marketing of the produce, but providing strong backup support with an effective monitoring system. The scientific cultivation technique of silk need to be promoted in the concerned study site with time-to-time training, monitoring and marketing of the products for the betterment of the respondents. Sericulture also creates gainful employment for women and aged persons at homes at minimum risk. Thus, the analysis clearly establishes the importance of sericulture over other crops in the generation of fresh employment opportunities in rural areas. The results of this research are very useful for extension professionals and policy makers to plan the activities and development of strategies.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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