

SERICULTURE FARMING IN SATARA DISTRICT OF MAHARASHTRA STATE: A GEOGRAPHICAL ANALYSIS

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ABSTRACT:

Sericulture is a very important agro based cottage industry in India. It provides regular short term income for small and marginal farmers. Mulberry cultivation, silkworm rearing, marketing of cocoons, silk reeling, silk weaving, printing, dyeing, grain age activity and research and development in all the above mentioned areas provide enormous opportunity for income generation in India. 126 Though India ranks next to China in mulberry silk production, the quality and quantity of the silk produced need tremendous enhancement. Sericulture industry has the potential of providing employment and income generation to the farmers, particularly rural women. India stands second only to China in silk production, which contributes around 85 percent of the global produce, whereas India's contribution is 13 percent. Karnataka stands first in sericulture, second is Andhra Pradesh and then comes Maharashtra on third place in the country and in Satara District. In the present paper an attempt has been made to bring out the Spatial Distribution of Sericulture Cluster and Sericulture Plantation in Satara district is. The study is based on Primary and secondary data.

Key words: Sericulture, Mulberry cultivation, silkworm rearing, Satara district.

INTRODUCTION:

The limited availability of land, the limited cash returns, and agriculture being confined to one or two seasons in the year, have made villages to look for supporting rural industries, such as sericulture. Sericulture is an agro-industry, playing an eminent role in the rural economy of India. Silk-fiber is a protein produced from the silk-glands of silkworms. Agriculture and sericulture are adopted simultaneously by the agriculturists in regions where the ecological conditions are favorable. In India, over three million people are employed in various fields of sericulture. It is a cottage industry and provides ample work for the womenfolk in the rural areas in rearing silk worms, while the male members work in the fields. Recently the enforcing of new ideas by research institutions both in mulberry cultivation and silk-worm-handling among Seri culturists, the industry is now practiced as a main profession and as a major cash crop, of the 111 country. Agro climatic conditions of scarcity zone of the district are suitable for mulberry cultivation and silk worm rearing. With a view to give thrust for the sector, a separate Directorate had been established under the Ministry of Textile. The government has planned to expand the area under Mulberry, in a planned manner. Under integrated cropping practices proposed by the state, thrust has been given to mulberry cultivation and silk rearing in the district.

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THE STUDY REGION:

Satara district is the western part of Maharashtra State. Its location lies between $17^{\circ} 5'$ to $18^{\circ} 11'$ North latitudes and $73^{\circ} 33'$ to $74^{\circ} 54'$ east longitudes occupying an area of 10,492 sq. kms. Administratively, it consists of eleven tahsils (Fig.1) and the region presents diversified physiography with hilly region dominated by leeward slopes of Western Ghats in west and alternate valleys and ridges culminating gradually into plateau in the east. The soils vary from laterite patches in the west through deep medium block alluvial of the river in the center and poor gray soils in the east. The monsoon climate dominates the region with variation in heat and cold. The region receives rainfall from south west monsoon averaging between 200 mm to 5000 mm. The eastern part, which fairly falls in the rain shadow belt experiences frequent drought conditions.

LOCATION MAP

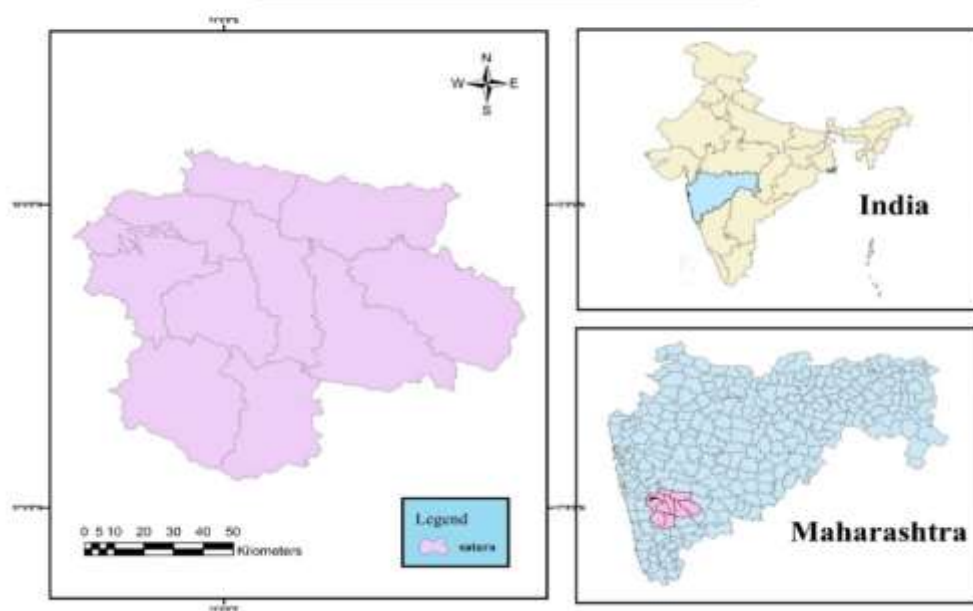


Fig.-1

OBJECTIVES:

The major objectives of this paper are as under:

To bring out the Spatial Distribution of Sericulture Cluster in Satara district.

To study the Sericulture Plantation in Satara district.

DATA BASE AND METHODOLOGY:

The present Study is based on Primary and secondary data. Primary data has been collected through the questionnaire and interviews of the selected Farmers. The Secondary data obtained from the records of Zilla Parishad and various records of Commissioner Animal Husbandry, Agricultural Department Satara District.

Sericulture Plantation during 11th Five year Plan period-Satara district

Table: 1: Sericulture Plantation during 11th Five year Plan period-Satara district

Sr.No	Years	No .of Villages	Mulberry plantation		Varieties		
			Farmer	Area (Acre)	V-1	M-5	S-36
1	2007-08	139	649	710	688	15.50	6.5
2	2008-09	156	654	747.50	741.50	2.00	4
3	2009-10	153	539	659	659	0	0
4	2010-11	132	362	359	359	0	0
5	2011-12	124	380	397	397	0	0

Source: Sericulture, Satara

Sericulture industry has the potential of providing employment and income generation to the farmers, particularly rural women. India stands second only to China in silk production, which contributes around 85 percent of the global produce, whereas India's contribution is 13 percent. Karnataka stands first in sericulture, second is Andhra Pradesh and then comes Maharashtra on third place in the country and in Satara District. Thousands of farmers in this region are now rearing silkworms and also continuing with their farming. Sericulture-related activity is spread across 397 acre in the district in 2011-12. The sericulture plantation during the tenth five year plan is presented in Table 5.4. During the plan period, area under mulberry plantation was around 159 hectares spread in 124 villages in the district. The highest cultivated variety of mulberry V 1, accounts for about 100 percent of the area.

1. Classification based on number of generations produced in a year under natural condition:

(a) Univoltine: They produced only one generation in a year. Usually these races are found in European countries.

(b) Bivoltine: They produce two generations in a year. They are available in Europe and Japan and produced medium sized cocoons.

(c) Multivoltine: They are able to produce many generations in a year and small sized cocoons. They are available in Pakistan, Bangladesh, India and China

2. Non-mulberry silkworms: These silkworms feed on other than mulberry plant's leaves.

(a) Eri silkworms: They produce a white or brick-red color silk, popularly known as eri silk.

(b) Tasar silkworms: They all are wild silkworms. There are many varieties such as: Chinese tasar silkworms: They produce grey-brown cocoons. The Indian tasar silkworms Japanese tasar silkworms. These types of silks are used in Japan and China in the purpose of embroidery and sewing.

(c) Mega silkworms: They produce an unusual shining golden-yellow silk thread which is very attractive and strong.

Silk worm in mulberry leaves:

The silk is a continuous filament fiber consisting of a fibroin protein, secreted from two salivary glands in the head of each larvae and a gum called sericin, which cements the two filaments together. The sericin is removed by placing the cocoons in hot water, which frees the silk filaments and readies them for reeling. The immersion in hot water also kills the silkworm pupae. This is known as degumming process.

Boiling of Silkworm Cocoon for Making Thread

Single filaments are combined to form thread. This thread is drawn under tension through several guides and wound onto reels. The threads may be plied together to form yarn. After drying the raw silk is packed according to quality. Multipurpose use of sericulture: Apart from silk, there are several by-products from sericulture. The mulberry fruits are very rich in minerals and vitamins and from roots, barks and mulberry leaves several Ayurveda and herbal medicines are prepared. Some of the woody mulberry trees provide timber which are resistant to termites and timber is used to prepare sports item. The silkworm pupae are rich in oil content which is used in cosmetic industry and the remaining pupil cake is source of protein content suitable for fisheries and poultry. Silkworm litter is used in bio-gas production and used as fuel for cooking. Thus sericulture not only provide fashionable clothing's, it also provide very useful by products to human society.

Production:

Silkworm larvae are feed mulberry leaves, and after the fourth moult, climb a twig placed near them and spin their silken cocoons. The process is achieved by the worm through a dense fluid secreted from its structural glands, resulting in the fiber of the cocoon.

Table 2: Supply of CSR, DFLs and Cocoon Production during 11th Plan period-Satara district

Sr. No.	Year	Area (Acre)	Dfls Supply	Cocoon Production (M.T)	Yield per 100 Dfls(Kg)

1	2007-08	652.50	212326	94047.6	51.4
2	2008-09	747.50	350909	1604556.3	47.5
3	2009-10	560.50	361242	193149.3	53.4
4	2010-11	379	294998	151495.4	51.3
5	2011-12	397	244639	120455	56.1

Source: Sericulture, Satara

At present sericulture is practiced in 124 villages and 380 farmers are pursuing this activity. The area under mulberry plantation was about 397 acres. The supply of csr, dfls and cocoon production during tenth plan period is presented in table 5.2. It can be seen from the table that during 11th five year plan 112 period, the cocoon production increased significantly by about 17 percent in 2007-08 over base period production of 12455MT in 2011-12

Table 3: Status of Sericulture Cluster in Satara district

Sr.No	Tashils	No. of villages	Old Plantation		New Plantation		Total Plantation	
			Farmer	Area (Acre)	Farmer	Area (Acre)	Farmer	Area (Acre)
1	Karad	27	64	51.25	48	46	112	97.25
2	Satara	25	54	55.50	31	35	85	90.50
3	Wai	7	10	10.50	5	5	15	15.50
4	Phaltan	10	14	13.50	14	16	28	29.50
5	Khandala	4	6	7	3	3	9	10.00
6	Koregaon	11	27	35	5	4.50	32	39.50
7	Khatav	11	8	7.50	17	17	25	24.50
8	Man	6	3	3	7	8	10	11.00
	Total	101	186	183.25	130	134.50	316	317.75

Source: Sericulture, Satara

Satara district has high potential for the development of Sericulture industry. The Satara district has different agro-ecological regions and sericulture requires irrigated land and therefore development of this industry is not feasible in hilly area likes Patan, Mahabaleshwar and some part of Jawali Taluka. However, Karad, Phaltan & Koregaon talukas have potential for sericulture apart from some parts of Khandala, Wai, Khatav & Satara.

CONCLUSION:

Sericulture activity is picking up in the district with 751 farmers producing on 830 acre of land from 157 villages and cocoon production is 46 mt. The area will be increased by 350 acre in this project & cocoon production increased by 6 % growth rate.

Sericulture industry has the potential of providing employment and income generation to the farmers, particularly rural women. India stands second only to China in silk production, which contributes around 85 percent of the global produce, whereas India's contribution is 13 percent. Karnataka stands first in sericulture, second is Andhra Pradesh and then comes Maharashtra on third place in the country and in Satara District. Thousands of farmers in this region are now rearing silkworms and also continuing with their farming. Sericulture-related activity is spread across 397 acre in the district in 2011-12. The sericulture plantation during the tenth five year plan is presented in Table 5.4. During the plan period, area under mulberry plantation was around 159 hectares spread in 124 villages in the district. The highest cultivated variety of mulberry V 1, accounts for about 100 percent of the area.

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