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## **Research Article**

# A Study of Mulberry Silk in Anantapur District of Andhra Pradesh

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#### ABSTRACT

The history of sericulture in Andhra Pradesh is only 50 years old. It is being practiced mostly in drought prone area and ever since its introduction sericulture is playing a pivotal role in the development of the rural economy of the state. It has been accepted as a sustainable economic activity and widely practiced in almost all the district of the state under different agro-based. Agriculture is the main occupation in Anantapur District. The district occupies the second lowest position in Andhra Pradesh with regard to surface irrigation facilities and hence the farmers have to depend on more and more a groundwater resources which are being exploited through dug wells and bore wells. The main objective of our study is to study the extent of mulberry cultivation in Anantapur District and also analyses the production of cocoon. This study shows that mulberry cultivated areas are on gradual decline in all the major silk producing states. The recent technological breakthrough has made sericulture more sustainable and cost saving. Sericulture economics is very specified and applied to commercial sericulture. Sericulture can help keeping the rural population employed and prevent migration to big cities and securing remunerative employment.

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#### **INTRODUCTION**

The history of sericulture in Andhra Pradesh is only 50 years old. It is being practiced mostly in drought prone area and ever since its introduction sericulture is playing a pivotal role in the development of rural economy of the state. It has been accepted as a sustainable economic activity and widely practiced in almost all the distf the state under different agro. Climatic conditions but bulk of the silk produced in the state mainly from the two districts of Chittoor and Anantapur of Rayalaseema region. The state which had been a minor sericulture state till recently has emerged as second major silk producing a state in the country next to Karnataka. Agriculture is the main occupation in Anantapur District. The district occupies the second lowest position in Andhra Pradesh with regard to surface irrigation facilities and hence the farmers have to depend on more and more a groundwater resources which are being exploited through dug wells and bore wells. The main crops grown in the district are paddy, wheat, jowar, ragi, pulses, groundnut, mulberry, and other millets. Paddy and jowar are the major food crops, whereas groundnut and mulberry are grown important commercial crops. The entire area under mulberry cultivation in the district is under irrigated conditions. Irrigation is provided through bore wells, open

wells and tank. Mulberry is being cultivated in 63 Mandals of Anantapur District.

#### **IMPORTANCE OF SERICULTURE**

Sericulture is an agro-based rural industry and an important cash crop, which plays a major role in the economy of few developing countries. The major silk producing countries in the world are China, India, Japan, Brazil, Korea, Uzbekistan, Thailand, and Vietnam, etc. It is found to be profitable farm enterprise in tropical and subtropical countries because of the nature of the enterprise that is relatively high income from a low investment. The major Silk Consumers of the world area, U.S.A, Italy, Japan, India, France, China, United Kingdom, etc. Till date, no fabric in the world has conquered this Queen of Textiles, and this is the magic of silk. Silk is not just another fabric in India. Over the centuries, it has been an indispensable part of Indian culture and traditions. About 1 million workers are employed in the silk sector in China. Silk industry provides employment to 7.9 Million People in India.

A study conducted by Iqbal (1991) found that mulberry silk production provided a net income of Rs. 15,715 per ace as against Rs. 4056 from paddy Rs. 3837 from jute and Rs. 1218 from on hectare of wheat under India conditions. Whereas

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Jaganthan (1996) found that, one hectare of paddy yields a net return of Rs. 8837, wheat Rs. 6424. While the same land yields annually Rs. 32,700 under mulberry silk. This has also proved by Suryanarayan (1993), he observed that mulberry grows in almost all soils in India. China and India are the two largest producers of silk together accounting for about one-third of silk production.

In India, Karnataka is the major silk producing states in south followed by Andhra Pradesh in A.P. Anantapur alone have more than 77.000 acres of mulberry. It has been reported that more than 60% of the cost of the silkworm cocoon is incurred in mulberry cultivation. Therefore, the productivity and profitability in sericulture depend on mulberry leaf yield per unit area at a reasonable cost. Hence, we have chosen Andhra Pradesh for our study during 1975–1976 Andhra Pradesh had only 3,000 acres of mulberry, after the involvement of D.P. Andhra Pradesh the growth rate has been increasing since 1976–1977. As on march 1992, the spread of mulberry has gone up to 76.980 acres in Anantapur District alone. Hence, in this study, we are analyzing it.

Mulberry cultivation is now prevalent in almost all the districts of Andhra Pradesh. Selection of Anantapur District as the study area among the 22 mulberry cultivation districts of Andhra Pradesh is due to the fact that it has the highest area under mulberry cultivation. This study is based on secondary data pertaining to cropping pattern, source wise information on production productivity size of land holding was obtained from the district land book published by the district statistical office Anantapur District deputy director office, department of sericulture, Anantapur.

#### The main objective of our study is to study the extent of mulberry cultivation in Anantapur District and also analyses the production of cocoon

We proceed as follows. In the first section, after brief introduction, we shortly review the theoretical literature, then, we studied importance, methodology and objectives in the second section. Subsequently, in the third part, we analyzed the data and also present the results. The last section concludes with the conclusion.

#### Analysis

India has the unique districts on of being the only country producing all the five known commercial silks, namely, Mulberry, Tasar, Eri, and Muga. India Among the four varieties of silk produced in 2015–2016, mulberry accounts for 71.8 % (20.434 MT), Tasar 99% (2.818 MT), Eri 17.8% (5.054 MT), and Muga 0.6% (166 MT) of the total raw silk production of 28.472 MT. Sericulture in India is as old as Indian culture. According to the Indian legend, sericulture was introduced in India about 2000 years ago. Sericulture in India progressed significantly especially after 1980's and recorded a production level of 18,755 MT of raw silk in 2012–2013 [Tables 1–4].

#### Sericulture in Andhra Pradesh

Andhra Pradesh is the second largest producer of mulberry cocoons (52009.009)

MT during 2012-2013. During 2012-2013 Andhra Pradesh has produced 258.5 MT of bivoltine and 6291.106 MT of multivoltine raw silk. Sericulture has provided employment for 36290 persons during 2012-2013. Andhra Pradesh has three regions, namely, Rayalaseema, Telangana, and Coastal Andhra. Mulberry acreage is mainly concentrated in the drought prone areas of Rayalaseema region. Rayalaseema consists of four districts, namely Chittoor, Anantapur, Kurnool, and Kadapa. Mulberry is mainly concentrated in Anantapur and Chittoor Districts, Anantapur District is the largest silk producing traditional sericulture belt of Andhra Pradesh, where farmers have successfully established sericulture, and this area represents the irrigated sericulture tract of the state. Thus, natural silk varieties such as Mulberry, Tasar, and Eri are grown in the state. In Tasar silk production, the state occupies fourth place, and sericulture is in the take-off stage. The rich silk heritage of the state with its living fabrics from the looms in Pochampally, Gadwal, Dharmavaram, and Narayanpet propelled the growth of weaving industry a very strong forward linkage to the reelers and farmers. The state is endowed with 41591.60 hectares under mulberry crop, covering about 1,00,085 farmers and providing employment to 5.9 lakh persons. In Andhra Pradesh, sericulture is practiced under different agro-climatic conditions. The entire mulberry is cultivated under irrigated conditions. Realizing the importance

Table 1: World	raw silk	production	in	the	recent	past
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Country	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
China	130000	108420	98620	104000	115000	104000	126000
India	18475	18320	18370	19690	20410	23060	23679
Japan	150	105	95	90	53	44	30
Brazil	1387	1220	1177	811	770	558	614
Korea-Rep	150	150	135	135	135	135	302
Uzbekistan	950	950	865	750	2448	2448	940
Thailand	1080	760	1100	665	655	655	655
Vietnam	750	750	680	550	550	550	450
Others	1000	500	350	304	30	29	75
Total	153942	131175	121392	126995	140051	131479	152368

Sericulture and silk statistics (2013), silk industry at a glance 2012-2013, central silk board

Particulars years	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Mulberry area (Lakh Ha)	1.85	1.78	1.84	1.70	1.81	1.92
Mulberry silk						
Bivoltine	1175	1250	1200	1400	1685	1984
Cross breed	15070	14360	15122	14960	16587	16771
Subtotal	16245	15610	16322	16360	18272	18755
Vanya silk						
Tasar	428	603	803	1166	1590	1705
Eri	1530	2038	2460	2760	3072	3100
Muga	117	119	105	124	126	119
Subtotal	2075	2760	3368	4050	4788	4924
Grand total	18320	18370	19690	20410	23060	23679
Employmentgeneration	61.20	63.10	68.17	72.50	75.60	76.28
Exports value (Cr. Rs)	2727.87	3178.19	2892.44	2863.76	2353.33	2231.08

Table 2: Performance of sericulture in India (2007-2008 to 2012-2013)

**Table 3:** State-wise raw silk production (MT) during 2012–2013

State	Raw silk	State share (%)	Rank
Karnataka	8319	44.36	1
Andhra Pradesh	6550	34.93	2
West Bengal	2001	10.67	3
Tamil Nadu	1185	6.32	4
Maharashtra	170	0.90	5
Jammu Kashmir,	141	0.76	6
Uttar Pradesh	116	0.62	7
Manipur	115	0.62	8
Madhya Pradesh	97	0.52	9
Bihar	13	0.06	10
Tripura	15	0.07	
Others	33	0.17	
Total	18755	100	

Sericulture and silk statistics (2013), Silk industry at a glance 2012–2013, Central Silk Board

of sericulture in providing employment as well as steady income to the silkworm rearing and its share in the export market, the central and state governments are now taking steps to expand sericulture even in the non-traditional areas.

#### **Sericulture in Anantapur District**

Anantapur District is one of the backward regions of Andhra Pradesh. Anantapur District has been practicing sericulture since a long time. Sericulture has become one of the prime occupation. Due to recent problems of drought and lack of permanent water resources sericulture has become one of the prime crops, as it requires less water for mulberry cultivation and minimum gestation period with proper planning farmers can get returns from each crop in every month. Anantapur District is one of the important districts on the sericulture map of Andhra Pradesh in mulberry cultivation and silkworm rearing. The district is having mulberry plantation, which is about 35.5% of the total acreage of the state. Mulberry is cultivated by about 21,000 farmers in 20977.25 acres [Table 5].

Sericulture is commercially attractive economic industry providing gainful employment mostly to rural people. Anantapuramu District occupies 1<sup>st</sup> place in the state with 35,700 acres of mulberry.

1. Sericulture activity provides employment to 4–5 persons throughout the year from one acre of mulberry with a net income of 1.00 lakh–1.50 lakhs per year.

2. Mulberry is a perennial plant and can survive for 10–15 years, since drought resistant it can be cultivated in drought prone areas like Anantapuramu District.

3. Mulberry gives quick yields with low gestation period of 2–3 months and can give 5–6 harvests in year thus ensuring periodical returns.

4. Arrests flocking of rural workforce to urban areas.

5. Earn Foreign exchange through export of silk and silk products.

6. Most of the sericulture activities such as practiced as household activities.

7. Most of the sericulture activities such as mulberry cultivation, silkworm rearing, reeling, twisting, and weaving are practiced as household activities.

8. Participation of women to greater extent, i.e. up to 60%. Since sericulture activities require delicate handling.

9. Silk is used in preparing dress materials, sarees, dhoties, etc., silk is also used for sutures in medical industry and pupae are used as feed in dish and poultry industry.

#### CONCLUSION

This study shows that mulberry cultivated areas are on gradual decline in all the major silk producing states. The recent technological breakthrough has made sericulture more sustainable and cost saving. Sericulture economics is very

Year	Mulberry area (ha)	Cocoonproduction (MT)	Mulberry raw silk (MT)	Productivity of cocoons/ha (kg)	Raw Silk Productivity/ha (kg)
2001-2002	232076	139616	15842	601.60	68.26
2002-2003	194463	128181	14617	659.15	75.17
2003–2004	185120	117471	13970	634.57	75.48
2004–2005	171959	120027	14620	698.00	85.02
2005-2006	179066	126260	15445	705.11	86.25
2006–2007	191893	135462	16525	705.92	85.12
2007-2008	184928	132038	16245	714.00	87.84
2008-2009	177943	124838	15610	702.00	87.73
2009–2010	183773	131661	16322	716.43	88.52
2010–2011	170314	130714	16360	767.49	90.20
2011-2012	181089	139871	18272	772.39	90.55
2012–2013	186015	142538	18755	766.27	100.6

**Table 4:** Mulberry Raw silk production in India

Sericulture and silk statistics (2013), silk industry at a glance 2012-2013, central silk board

Table 5: Production of Mulberry in Anantapur District

Activity	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Mulberry Acreage	26152 2.4	23154	20150	19145	15720	19145	20977	24998	29298

Sericulture and silk statistics, Hand Book of statistics, Chief planning office, Anantapur 2015

specified and applied to commercial sericulture. Sericulture can help keeping the rural population employed and prevent migration to big cities and securing remunerative employment.

The demand for superior quality bivoltine silk increasing in India for domestic consumption as well as value added silk products for the export market. The ministry of textiles government of India and departments of sericulture in various states provide technical and financial assistance for enhancing the silk production.

Farmers who had faced losses in groundnut cultivation for years now have reaping profits through sericulture. Several small and marginal groundnut farmers from Uravakonda, Dharmavaram, Hindupur, and other Mandals in the District owing <5 acres of land and with a history of accumulated losses in groundnut cultivation are now earning handsomely in mulberry cultivation.

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