

Original Research Article

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## Livelihood Improvement through Sericulture in Kokrajhar District of Assam - A Key for Women Empowerment

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### ABSTRACT

Sericulture is a traditional agro-based economic activity that has been playing a significant role in generating employment and income. Sericulture is a subsidiary occupation of the rural women folk of Indo-Mongoloid and Tibeto-Burman races of the Brahmaputra Valley. In the present study three Sericulture progressive villages were surveyed in the district from each of the four sub-division of Kokrajhar district namely Kokrajhar, Dotma, Gossaigaon and Parbatjora respectively. A total of 10 nos. of respondents were selected from each villages using personal questionnaire for intensive study on per cent adoption and income generation from Sericulture in the district. The investigation revealed that among the three varieties of natural silks viz., Eri, Muga and Mulberry, Sericulture was performed highest in the district and occupies the prime position (being 94%) compared to Muga (5%) and mulberry culture (1.3%). Out of the Sericulture population in the district, the highest percentage of Eri-rearers (74.81%), Muga (14%) and Mulberry rearers (68.71%) belongs to Scheduled Tribe categories. From the study, it can be revealed that sericulture can be a profitable income generating activity for the women folk of the district with a benefit-cost ratio of 3.1

#### Keywords

Sericulture,  
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### Introduction

Sericulture is an agro-based industry having both agricultural and industrial activities inter-winged together. It involves raising of silkworm food plants, rearing of silkworms for production of cocoons, reeling or spinning of cocoon and finally the production of silk. It is remarkable for its low investment and quick

and high returns, which make it an ideal industry or enterprise and fits well into the socio-economic fabric of India. Sericulture is broadly classified into two distinct sectors viz., mulberry and non-mulberry. Mulberry sericulture is concerned with rearing mulberry silkworm for production of mulberry silkworm and non-mulberry sericulture is concerned with production of different

varieties of *Vanya* or wild silk by rearing Eri (*Samia ricini*), Muga (*Antheraea assama*), Tasar (*Antheraea mylitta*) and Oak-tasar (*Antheraea proylei*). In terms of contribution to employment and income by all the four major sericulture activities of Assam (viz eri, muga, mulberry and tasar), ericulture occupies the prime position among the poor rural masses (De and Das, 2009).

In Assam Ericulture is mainly practiced by the women folks of tribal communities like *Bodos*, *Kacharis*, *Misings*, *Garos*, *Ahoms* and *Karbhis*, which is associated with their socio-economic and cultural life. It helps to increase their family income and also provide nutritional support through the delicious by-product, pupae.

Art of rearing of Eri silkworms, spinning and weaving was introduced by the *Bodo* indigenous people in India (Sharma, 1983). It is an indigenous craft and closely associated with the culture and tradition of the *Bodo* society and occupies a prominent place in the Socio-economic life of the people. In common with other ethnic culture of communities of Assam as well as North-East India, handloom and textile production is typically a feminine activity in Bodo society and it is customary for the girls among the *Bodos* to learn the art of weaving from a tender age.

According to Teotia and Bajpeyi (2009), rearing of Eri silkworms is almost a household affair among the Bodo Community in Kokrajhar District and it is mostly conducted by the female (almost 64%) of all age categories (Brahma, 2015). In Assam, total eri silk production was 3619 MT (Anonymous, 2016-17) and 4, 25,383 nos. of families are engaged in eri culture activities (Anonymous, 2016). Assam alone accounts for about 50% of the total eri silk production in the country. The Brahmaputra valley of Assam and its adjoining states of the north-east region

together produces more than 90 per cent of eri cocoons, while the rest is produced elsewhere (Choudhary, 1982).

However, adoption of traditional practices of rearing eri-worm and lack of scientific know-how, non-availability of silk reeling machines, absence of market infrastructure and supporting linkages are still the limiting factors which are required to be attended for exploiting the existing potential of ericulture in Kokrajhar District. Hence, the present study was undertaken to assess women empowerment and livelihood improvement through sericulture intervention in Kokrajhar district of Assam.

### **Materials and Methods**

The Kokrajhar District of the State of Assam has been selected as the study area. It is one of the 33 districts of Assam is under Bodoland Territorial Council comprising of BTAD headquarter and lies in between 89° 46'E to 90° 38'E longitudes and 26° 19'N to 26°54'N latitudes has been selected as the study area. A total of 3 villages were selected and surveyed for the study from Kokrajhar, Dotma, Gossaigaon and Parbatjora sub-division of Kokrajhar district. From each village, 10 nos. of sericulture farmers were selected for the study through personal interview using a structured questionnaire based on the intensity of Sericulture practiced, proportion of Sericulture household, size of the village, caste composition, extent of progressiveness and response promptness of the people.

The informal interviews were conducted both at the individual and group level from various categories of people, village headman, men and women, extension staff and government officials. Secondary data were collected from books, periodicals, census and departmental reports, documents, field records, etc.

## Results and Discussion

The investigation has shown that sericulture farmers of the district practice all the three varieties of natural silks viz., Eri, Muga and Mulberry, which has transformed from a subsistence type to a modern scientific enterprise by taking five to six crops in a year. Among the three varieties of natural silk, the use of Eri silk is closely associated with the culture and tradition of the *Bodo* society. Out of total 3082 villages, sericulture is practised in 1658 villages in BTC. A total of 44,250 numbers of sericulture farmers/families are directly involved in Sericulture activities during 2018-19.

In Kokrajhar district, total 12,637 farm families were directly involved in sericultural activities during 2018-19. Among 12,637 families, 11,904, 570 and 163 households practices Eri, Muga and Mulberry culture respectively (Table 1). Priority wise, Eri culture (being 94%) was performed highest in the area compared to Muga (5%) and mulberry culture (1.3%). Brahma (2015) also reported higher percentage of households (94%) practising ericulture in Kokrajhar district compared to Muga (4%) and Mulberry (2%) culture. These reflect that Eri culture is highly popular in Kokrajhar district than other Sericulture activities like Muga and Mulberry cultures. This finding are in conformity with Teotia and Bajpeyi (2009) who also reported higher nos. of sericulture families engaged in Eri culture compared to Muga and Mulberry culture.

Among the Sericulture population, in Kokrajhar district, highest percentage of Eri-rearers (74.81%), Muga (14%) and Mulberry rearers (68.71%) belongs to Scheduled Tribe categories (Table 2). Similar observations were also recorded by Brahma, 2015.

## Income generation in sericulture

Sericulture can be considered as one of the most remunerative occupation for all categories of farmers, from a small/marginal farmer with meagre resources to a large farmer. The return from this activity is quick with a short gestation period. Another advantage of sericulture is that, it is an indoor activity, which does not depend on season, but can be carried out throughout the year if it is taken up as a full time activity.

From the investigation (Table 3), it can be revealed that from 1 acre area by practising Sericulture activities total net return of Rs. 77,500 can be obtained and against every rupee spent, three rupees can be earned.

Goswami and Bhattacharya (2013) also reported that 55.24% of the women folk derive their income from Sericulture as against 10% of the women who derive their income from agriculture in spite of the economy being dependent on agriculture.

Sericulture provides self employment to the rural poor, primarily for the women folk that constitute almost 60% of the work force. It is revealed from the present study that sericulture can emerge as the most important opportunity in generating women's income. It is the least resource intensive activity which leads to high returns. Most of the activities related to sericulture, particularly rearing of eri can be done indoors. It will go a long way in increasing the income of the respondents and raising their standard of living. The Eri culture in the district is not restricted to silk only but also for its pre-pupa/pupa, as it is a culinary delicacy of the Eri rearers. However, traditional system of Eri worms rearing must be overcome by adopting the new techniques for higher income.

**Table.1** Details of Seri-population in Kokrajhar district

N=120

Caste	Sericulture Population (Nos.)			Regular Rearers (Nos.)		
	2	3	4	5	6	7
1	Eri	Muga	Mulberry	Eri	Muga	Mulberry
ST	8906	480	112	975	80	42
SC	1218	32	21	98	32	11
Others	1780	58	30	146	58	10
<b>Total</b>	<b>11904</b>	<b>570</b>	<b>163</b>	<b>1219</b>	<b>170</b>	<b>63</b>

**Table.2** Percentage-wise categories of Seri-population

N=120

Caste	Sericulture Population (%)			Regular Rearers (%)		
	2	3	4	5	6	7
1	ST	SC	Others	ST	SC	Others
Eri	74.80	10.23	14.90	79.98	8.00	11.97
Muga	14.00	5.60	10.17	47.05	18.80	34.11
Mulberry	68.71	12.88	18.40	66.66	17.46	15.80
<b>Total</b>	<b>157.51</b>	<b>28.71</b>	<b>43.47</b>	<b>99.88</b>	<b>44.26</b>	<b>61.88</b>

**Table.3** Income generated from sericulture sector (1 Acre)

Particulars	Quantity	Amount (Rs.)	Total (Rs.)
1.No. of layings reared in a year	500 nos	-	-
2. Cut Cocoon production	50.0 kg	-	-
3. Cost of Cut Cocoon	-	800.0/kg	40,000.00
4. Production of Pupae	250.0 kg	-	-
5. Cost of Pupae	-	250.0/kg	62,000.00
6. Total Return /yr/unit land area	-	-	1,02,500.00
7. Cost of Castor Leaf production	-	25,000.00	-
8. Total Net Return/yr	-	-	77,500.00
9. B:C Ratio	-	-	<b>3.1:1</b>

(Source: Directorate of Sericulture, Kokrajhar, BTC)

In addition sufficient Eri concentration centers should be opened, activities of the middleman, traders of cocoon should be controlled, and last but not the least, the supply of credit (loan) must be adequate and timely

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