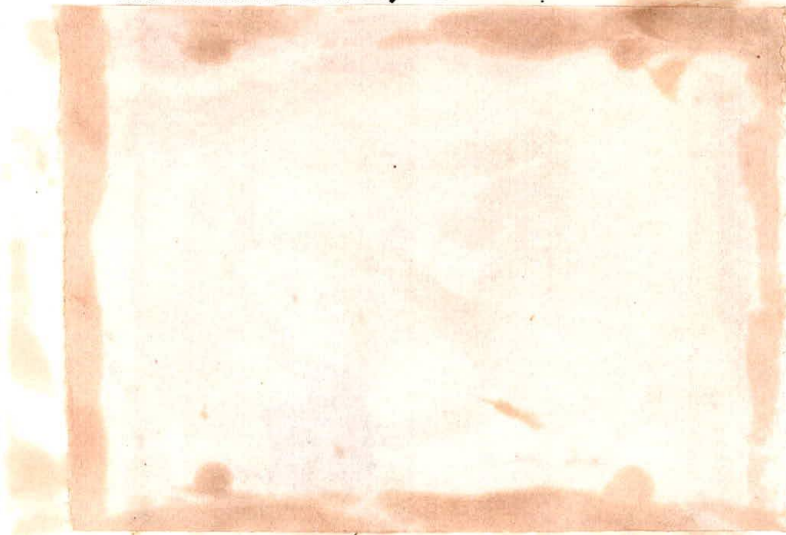


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WOMEN AND SERICULTURE
SILK WORM REARING BY HILL WOMEN OF
KALIMPONG, WEST BENGAL



A beneficiary assessment report
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P R E F A C E

In West Bengal sericulture activities are more common in plains than in the hilly regions. However, at Kalimpong and its adjacent areas in Darjeeling district in north, rearing of silkworm is in vogue for quite some time.

The CSB and the DOS examined the feasibility of developing the area as BV seed zone and introduced sericulture from 1974-75.

There are certain distinctive features of sericulture activities in the area. Its topography allows only terrace cultivation and climate limits the activity to only two seasons. However the interesting feature is that silkworm rearing is carried out mostly by women. They collect the young age silkworm after second stage (after CRC) and carry out all operations of rearing, harvesting and marketing the cocoons.

Against this backdrop the B.A. team took up the study of silkworm rearing by hard working hill women - their problems and prospects. The paper reports the finding of the study.

BA Team

<i>BACKGROUND</i>	5
<i>OBJECTIVES</i>	5
<i>COVERAGE AND SAMPLE</i>	5
<i>METHODOLOGY</i>	5
<i>MAIN FINDINGS</i>	6
<i>The Region</i>	6
<i>The Rearer</i>	6
<i>Socio-economic</i>	6
<i>Women and Sericulture</i>	7
<i>RECOMMENDATIONS :</i>	8
INTRODUCTION :	9
OBJECTIVES :	10
METHODOLOGY :	10
COVERAGE :	11
PROFILE OF THE AREA :	11
Geographical	11
Location :	11
Temperature :	12
Soil :	12
Irrigation :	12
Communication :	12
ECONOMIC ACTIVITIES :	12
SOCIAL LIFE :	13
Population Composition :	13
Housing, Education and Clothing etc:	14
Social Practices :	14
WOMEN IN SILK WORM REARING	15
Productivity :	16
INPUTS OF PRODUCTION	17
Seed and Disinfectants :	17
Training :	17
Technology and Extension service :	18
Credit :	18
Marketing :	18
SUSTAINABILITY OF SERICULTURE	19
RECOMMENDATION :	20

SUMMARY REPORT

BACKGROUND

The Kalimpong region is being considered for the development of BV seed zone. From the very beginning of the introduction of Sericulture in Kalimpong the village women played a major role in sericulture. Few women got sericulture training in 1964 for the first time and following the training programme, the women started rearing of silk worms. Among the old trained women who are alive still rear silk worm. Following the tradition, in Kalimpong, sericulture is done mainly by the women members of the concerned families even today.

BA team took up a study on sericulture by the women in the area.

OBJECTIVES

The objectives of the present study is to examine the role and status of women in sericulture in the hilly region of Kalimpong - their problems and prospects. The study therefore, focuses on the following parameters :

- ☐ Profile of the area - geographical, economic and social.
- ☐ Silkworm rearing and women participation
- ☐ Inputs available to women rearers and its impact.
- ☐ Change in life of women through sericulture
- ☐ Sustainability of sericulture and the development of women

COVERAGE AND SAMPLE

To evaluate the objective, informations were collected from two clusters of 15 villages. There were about 70 women rearers in these 15 villages. The study covers 40 women rearers of the region.

METHODOLOGY

Participant observation along with group discussion and conversational interviews were the methods adopted for collecting information and generating the data of the study.

MAIN FINDINGS

The study reveals the unique features of the region being developed as BV seed zone in the State.

The Region

- It is a hilly region (4500 ft. from sea level), soil is sandy loam and lack of plain cultivable land leads to only terrace cultivation.
- In terrace cultivation, extensive mulberry cultivation is difficult. The mulberry is grown only as bushes and trees.
- The climate is cool with humidity ranging from 73% to 93% and have natural precipitation.
- The topography of the region and other conditions limit rearing of silk worms mainly to two seasons, April-May and September-October each year.

The Rearer

It is mostly the women who have opted rearing of silk worm by choice to subsidize their income.

- The women rearers are found to be motivated and hard working. They carry out all the operations from collecting mulberry leaf, young-age silk worms, to harvesting of the cocoons and marketing the harvest.
- Most of the women rearers have received training conducted by DOS and CSB. Their knowledge-base, awareness and skill in rearing operations have been found to be adequate.

Socio-economic

- Though it is not a matriarchal society but women are found to be the major decision makers. In lower strata generally men are addicted to country liquor or other local drug where as women are hard working and sincere.
- Polygamy exists in disguise.
- Generally economic condition of the families are not sound but are economic, frugal and self-managed.
- Behaviour and personal dealings are very polite and nice; houses are neatly decorated (depending on the economic condition)

- Children of both the sexes attend school.

Women and Sericulture

- Inputs and extension services in terms of training, supervision, supply of young-age silkworms, disinfectants, and chemical etc. are adequate and satisfactory.
- Cocoon productivity is more than that of the plains. It is about 45 to 65 kg. per 100 dfls.
- Cocoons are sold by the women rearers directly to the Government offices. After procuring of their own the Government agencies sell the cocoons to the private parties of Malda district. The rearers do not get payment of their sale value of cocoons immediately. They have to wait and come back again after two to four weeks to the offices to collect money.
- Because of built-in limitations there are mainly two seasons of rearing and the scale of operation is also low - about 25 to 30 dfls per rearer per season.
- Due to the low scale of operation and limitation of season, the total production of cocoon and profit is low.
- Due to the non-availability of matching commercial crop, the April-May crop which is the most successful is sold as reeling cocoons and only September-October crop is sold as seed cocoons.

However, the women rearer expressed willingness to increase their scale of operation and for the formation of women's groups provided some initiative is taken by NGOs or government officials.

RECOMMENDATIONS :

Against this backdrop, certain specific measures have to be taken up by the implementing agencies to bring about an overall development of the prospects of Kalimpong as a BV seed zone. These are summarized as follows :

1. The feasibility of development of suitable commercial zone in the foot hills with a view to make use of April - May crop (BV cocoon) for CB layings.
2. The possibility of marketing April - May seed crop in other states having a matching seasons for CB layings should be explored.
3. Arrangement should be made for immediate payment of sale value (of the cocoon) to the women rearers to sustain their motivation.
4. The Women Development Officer, DOS, should provide active support to build up groups among the women rearers. The promotion of group building activities, it is hoped, would increase their level of consciousness, facilitate sharing of views, decision making power and attitude of self reliance and self help.
5. Institutional credit should be arranged to strengthen their rearing infrastructures.

It is strongly felt that Kalimpong has a good potentiality as BV seed zone and will substantially meet the seed requirement for CB layings of the State. As women are the major custodian for the silkworm rearing, their development is inextricably linked up with the development of the seed zone as a whole.

INTRODUCTION

In West Bengal sericulture activities are more common in the plains than in the hilly regions. However, rearing of silk worm is in vogue for quite some time at Kalimpong (in the dist. of Darjeeling) and the adjacent areas. A Regional Sericultural Research Station (RSRS under CSB) was established in 1945 to examine the feasibility of developing the area as BV seed zone. In Kalimpong DOS opened a sericulture station supervised by few Japanese sericulturists consisting of a hill nursery and Foreign Race (Silkworm) Seed Station. In 1964 rearing of silkworm was started at village level. In 1974 - 75 full-fledged rearing had been started after receiving finance from HABS (Hill Affairs Branch Secretariat). Six sericulture farms were constructed and rearing infrastructure were given to the rearers through HABS. In 1965 the supply of dfls was 35000 dfls which resulted about 75 - 80 lacs seed cocoons. In July'86 almost all sericultural activities were stopped because of Gorkhaland agitation and again starts from 1989.

The Kalimpong is being considered for the development of BV seed zone. since the introduction of silkworm, rearing in Kalimpong, women took the major role in it. Few women got training for the first time in 1964. Mrs. Dhanmaya Rai, Kantimaya Rai, Premmaya Rai and a few other women started rearing in 1964 following the training. Among the trained women who are still alive are engaged in rearing silkworm. In Kalimpong sericulture activities are mainly carried out by the women members of the concerned families as has been the tradition.

In other parts of West Bengal there are no significant numbers of women dominated sericulture households. In Kalimpong, on the other hand, mainly women are involved in almost all the sericultural activities. They collect the silkworms after second stage (that is after CRC) from the nearby distributing centre, rear the silkworm and market the cocoons all by themselves. Men have practically no role in the activity. Since women manage the overall sericulture activity we can consider the sericulture households in Kalimpong as 'women-dominated' sericulture households.

Under this circumstances, BA team took up the study of sericulture in the hilly regions of Kalimpong with special reference to the role of women, that is, how the lives of women are influenced through sericulture activity. This paper reports the major findings of the study.

OBJECTIVES :

The objectives of the present study is to examine the role and status of women in sericulture in the hilly region of Kalimpong - their problems and prospects.

The study, therefore, focuses on the following parameters :

- * Profile of the area - geographical, economic and social.
- * Silkworm rearing and women participation.
- * Inputs available to women rearers and its impact.
- * Change in life of women through sericulture.
- * Sustainability of sericulture and the development of women.

METHODOLOGY :

The women of Kalimpong rear Bivoltine silkworms from the third stage, that is, after young age rearing in CRC. To understand their motivation, involvement, training, rearing practices, constraints etc. participant observation, group discussion and conversational interview techniques were adopted in the present study.

COVERAGE :

To examine and analyze the above indicators, information were collected from the women rearers of the two clusters of villages.

Bhulkhop Cluster

No. of Villages : 8

Mahakaldara
Raigaon
Newargaon
Mondalgaon
Tripaydara
Dante Dalman
Laminigaon
Aliachikhop

Sangsay Cluster

No. of Villages : 7

Khamdung
Pethong
Kharka
Bhimbong
Yogda
Tumlabung
Bhage

Total population : 4500 approx.
No. of Households : 600
No. of Rearers : 30

Total population : 3000 approx
No. of Households : 400
No. of Rearers : 40

Together there are 70 rearers in the two clusters of villages. All rearers are women. The study covered 40 women rearers from the 15 villages.

PROFILE OF THE AREA :

Geographical

Location :

Kalimpong is a hill station (4500 ft. from sea level) of tourist interest in the north of West Bengal. It is situated 45km east of Darjeeling, the district headquarters and one of the important hill stations of tourist interest in the country. It is connected only by road with other parts and the regions of the State. The nearest rail station is New Jalpaiguri (near Siliguri) in the south.

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Temperature :

Generally the temperature of the region is cool with humidity ranging from 73% to 93%. It rains heavily during monsoon.

Soil :

Soil is sandyloam: 75% clayloam and 25% slityloam. Soil PH is 4.5 - 5.9. Nutrient status of soil consists Potassium and organic carbon, low phosphorus, boron, zinc and molybdenum etc. water holding capacity of the soil is very poor.

Irrigation :

In this hilly region there is no source of irrigation that is, it is a rainfed area. In monsoon there is heavy rainfall; but in other season there is scarcity of water both for irrigation and for drinking purposes.

Communication :

It is a hilly region and the scattered villages and hamlets are linked by hill tracks and pathways. In absence of vehicular transport system, one has to walk 6 km. to 10 km. of the hilly tracks to reach from one place to another. In rainy season landslide occur frequently. Normally the rearers have to walk for 1.5 to 2 hours to reach the sericulture office.

ECONOMIC ACTIVITIES :

Occupational pattern is mainly agrobased. Because of the topography of the region, plain cultivable land is not available, terrace cultivation is common. As a result average landholding (hill) is quite high but average cultivable terrace is low. It is to be noted that a good size of hill is rocky, that is, barren. Families depend mainly on agriculture and the members of few families are employed in schools, government offices and army. Few families are also engaged in petty business. The villagers grow maize (makai), vegetables, some spice plants like

ginger, cardamom etc., flower etc. The rearing of the silkworm by the women is a subsidiary economic activity to supplement earnings. There is no exclusive sericulturist in this area. The rearers are undertaking silkworm rearing along with other agricultural cash crops. The following table shows the returns from different cash crops in the hills from one hectre of land.

<u>Cash crops</u>	<u>Net returns (Rs.)</u>
Ginger	65000
Potato	2000
Maize	1000
Sericulture	20,000

It is observed that average plantation of mulberry is low to the extent of 800 bushes / trees per rearer. Consequently average rearing is low (25 -30 dfls / rearer in a season) and as a result net returns from sericulture is low. It may be noted that there are no major industrial activity in the region except tourism, local trade and commerce. Cattle rearing is found in almost all the families.

SOCIAL LIFE :

Prevalence of nuclear type family with women having a dominant position is observed. Women are hard working compared to their male counter-parts and are found to be engaged in one or other economic activity to increase their income.

Population Composition :

The population of this area consists of Nepalese, Bhutanese and other ethnic communities. Among the 40 sericulture households the number of christian households are 5, rest (35 households) are Hindus. The following table shows the composition of population of the area :

<u>Religion-wise</u>		<u>Caste-wise</u>	
Hindu	35	ST	5
Christian	5	Brahmin	10
		Other general caste	25
Total	40		40

Caste Hindus (general) are from Rai, Prodhan, Kumar, Khaling groups, STs are from Tamang group, Brahmins are from Sharma, Adhikari etc. groups. It is to be noted that an average family has 6 members. It is also observed that Christian are exclusively ST.

Housing, Education and Clothing etc:

Normally in the hilly region small houses are found due to the lack of plain-dwelling place. The walls of the houses are made of wood and the sheds are of tin-sheet. The houses are very neat and clean, nicely decorated; walls and sheds are coloured matching with the hills. In each family atleast an ordinary toilet is found.

In the hilly region, practice of educating the children is found. In each family children are getting education. Kindergarten and nursery have been popularizing. Old male and female are found to be mostly illiterate.

As about clothing, they have a fascination for deep colours.

Social Practices :

Their living profile in terms of clothing, interior decoration of homes etc. resembles to some extent to the Western Culture. The food habit and the other social practices like customs, beliefs, taboos etc. are entirely different from the culture of the foreigners. Their belief in deities is quite profound. Marriage by consent is more popular than by negotiation. Addiction to alcohol (country made) is a common practice among the male members. The practice of Polygamy and Polygyny in some cases have been reported. Owing to lack of communication and transportation, home delivery is quite prevalent in the area. Women's

wage earning capacity reinforces their decision making power but complete absence of women's groups is strongly felt.

WOMEN IN SILK WORM REARING

Kalimpomg is BV seed zone. Unlike the plains, the mulberry is grown as bushes and trees around the maize and vegetable fields. Some times cluster of mulberry bushes and trees are found at a little distance from the sericulture households.

As stated earlier, sericulture operation in the area is restricted to rearing of silkworm from the third stage, that is, after chowki rearing operation carried out at CRC (in the office complex). The scale of operation is low, about 25 - 30 dfls. are reared per season per rearer. There are mainly two seasons : April-May and September-October. In June-July there is also a season but it is not important.

The rearing of silkworm is generally carried out either in one portion of their living room or in the covered shed attached to the living room. A few of them have separate rearing houses.

The crop is sold by the rearers entirely through the government agencies. Supervision and extension services are provided by the local government field officers.

It has been stated earlier that mainly the women are engaged in sericulture from collection of silkworm after second stage, rearing and marketing the harvest. They show the requisite knowledge and skilled to carry out each operation during rearing.

Almost all old women rearers are illiterate. But this is not a constraint to carry out their operations.

They are found to :

- * Clean and disinfect the rearing room / space equipments and other articles before the start of the rearing operation with RKO, LABEX, cowdung etc.

- * They collect silkworm from the nearby Chowki Rearing Centre after second stage.
- * Pluck the mulberry leaves and bring them home for feeding.
- * Supervise and do the spacing, transfer to spinning trays and gives all the necessary feedings.
- * Collect the matured cocoons and carry them to the government offices through which they sale their harvest again go for collection of their sale proceeds after about 2 - 4 weeks as required.

Productivity :

In Kalimpong, both scale and seasons for rearing of silkworms are limited. The yield in April-May is more compared to September-October crop due to the supply of matured leaf and suitable weather. In September-October season, the cold weather sets in which hinder the growth of mulberry leaf causing an acute shortage of supply of leaf. after harvesting the leaf in April-May season, the leaf does not become matured within the short span of 3 months. Onset of monsoon is another factor affecting the productivity of cocoon in Sept-Oct season

Season	Productivity / 100 dfls.	Average Price / kg.
April-May	55-60 kg.	Rs. 75.00
September-October	40-45 kg.	Rs.175.00

The scale of operation is low. It is about 25 - 30 dfls per rearer per season. Hence, The production of BV cocoons is naturally low. But the productivity compared to plain is still higher.

Rearer	Average Productivity
In hill by women	50 kg
In plain by male-headed family	35 kg

The factors leading to satisfactory productivity in the region are :

- * The women rearers are hard working, sincere and motivated.
- * They have the necessary knowledge-base regarding all operations.
- * They are motivated and very much willing to increase their scale of operations.

- * There is purposive and effective support from CSB and DOS.
- * Moreover, the climate (temperature, humidity, disease freeness) is very congenial to BV rearing.

In the plains of West Bengal there are a very few female headed sericulture families. These women, victims of circumstances, have not adopted sericulture by choice, but continuing the family activity after demise of male-head of the family. Whereas, the hill-women of Kalimpong have taken up rearing of silk worm by choice as subsidiary income generating activity and may be considered as women headed families.

In spite of these positive factors for development of BV seed zone, there are some serious constraints which hinder increasing scale of operation in the region. These are discussed in the following chapters.

INPUTS OF PRODUCTION

The government departments, the CSB and DOS made available some purposive and effective inputs to motivate the rearers to adopt rearing of silkworm in the area. Initially they provided rearing infrastructure, disinfectants, young-age silkworms etc. free of cost. However, once the rearing is adopted by the women themselves, these free supports are being withdrawn.

Seed and Disinfectants :

The rearers in Kalimpong get the young-age silkworm after two stages at free of cost. Government agencies also disinfect the rearing room and other infrastructure with formalin spray. Rearers get this disinfection facilities at free of cost.

Training :

A good number of women rearers of Kalimpong have received training conducted by the DOS and CSB, the implementing agencies of the programme. Among the 40 rearers 19 women got training.

Though most of the women rearers are illiterate, they possess adequate knowledge and skills in different operations like use of disinfectants and chemicals, spacing of worms in trays, feeding at proper intervals, transferring them in spinning trays and so on. They are quite adapted to techniques of rearing practices received from the government officials.

Technology and Extension service :

Beside the training programme government officials render modern technique/ know-how to the rearers in the rearing season at their homes. Moreover officials pay frequent visit to rearers' house during rearing seasons. Officials watch and take care to the worms and render necessary advice. On an average they pay visits for 7 days in a season. Extension services by the officials are found to be adequate and satisfactory. The rearers do not have any complaint against these services during rearing seasons.

Credit :

The individual women is engaged in rearing along with other activities. There are no women group collectively engaged in sericulture activities. Most of the women are of the opinion that Institutional credit is necessary for expansion of sericulture. Among the 40 rearers 21 rearers got Institutional credit to the extent of Rs.5000/-. It is noted that these credit facilities were available before the implementation of NSP. under NSP, few cases are sanctioned but the money is yet to be released. Those who have previously received credit have built rearing house and rearing infra-structure.

Marketing :

It is observed that the women rearers sell their cocoons directly to the government offices. They are found to carry their load of cocoons to the office, walking up and down 6 km. of hill tracks, check the weight, negotiate price and procure the pay slips. They do not get the sale-value immediately. With the pay slips they come again to the centre after about 2 - 4 weeks to collect the money. The government agencies sell the cocoons to private parties after procuring for their own grainage

operation. In the nut shell, after the procurement by the government the private parties purchase the cocoons from the rearers in the presence of the government officials.

SUSTAINABILITY OF SERICULTURE

Kalimpong is a very good potentiality as BV seed zone on the following grounds :

1. The climate is very suitable for production of high yielding cocoon and better quality of silk due to cool temperate / cool subtropical and natural precipitation. Average relative humidity is 74% - 93%, soil is sandy loam.
2. This area is far away from the commercial sericulture zone; as a result this area is free from uzy fly and other diseases.
3. The inputs from the government department in terms of training, supports, extension services, supervisions etc. are adequate and satisfactory.
4. A good number of rearers have received training from DOS and CSB. They are technically equipped with the components of rearing practices.
5. The hilly women are hard working, motivated, knowledgeable and are very much willing to undertake the rearing operation in larger volume.

Notwithstanding the above positive factors, the scale of operation, thereby the gross productivity could not be enhanced because of the following factors :

1. There are two major crops namely April-May and September-October. The cocoons of April - May are sold as reeling cocoon because of very bad climatic condition (heavy rain and high humidity) in the commercial zone, these cocoons are not used as seed cocoon. The cocoon of September-October are, however, used as seed cocoon. Thus the April - May crop fetches low return.
2. Because of the two rearing seasons, inadequate rearing infrastructure, insufficient production of mulberry leaf, low return

from April - May crop etc., the scale of operation of silkworm rearing could not be beefed up.

3. Deferred payment system of the sale proceeds has been a demotivating factor for the women rearers. There are no organized group of women rearers in the area. There is a growing consciousness among them to form the groups and in a need of an external assistance / supports to facilitate guided group interaction.

RECOMMENDATION :

Against this backdrop, certain specific measures have to be taken up by the implementing agencies to bring about an overall development of the prospects of Kalimpong as a BV seed zone. These are summarized as follows :

1. The feasibility of development of suitable commercial zone in the foot hills with a view to make use of April - May crop (BV cocoon) for CB layings.
2. The possibility of marketing April - May seed crop in other states having a matching seasons for CB layings should be explored.
3. Arrangement should be made for immediate payment of sale value (of the cocoon) to the women rearers to sustain their motivation.
4. The Women Development Officer, DOS should provide active support to build up groups among the women rearers. The promotion of group building activities, it is hoped, would increase their level of consciousness, facilitate sharing of views, decision making power and attitude of self reliance and self help.
5. Institutional credit should be arranged to strengthen their rearing infrastructures.

It is strongly felt that Kalimpong has a good potentiality as BV seed zone and will substantially meet the seed requirement for CB layings in the state. As women are the major custodian for the silkworm rearing, their development is very much interwoven with the development of Kalimpong as a Bv seed zone.