CHAPTER-8
FINDINGS, CONCLUSION AND POLICY IMPLICATION

8.1 Major Findings:

The major findings of the study has been grouped under four heads-

8.1.1. Employment:

Most of the rural population in India depends on agriculture for their livelihood. However, due to the stagnation in this sector, we need to look into alternative sources of employment. In this regard, sericulture can be used as a rightful technique to create rural employment in the country. It has been proved by many studies that sericulture comparatively provides more employment in comparison to other crops such as sugarcane, turmeric, paddy etc. Just like mulberry cultivation in Andhra Pradesh and Tamil Nadu, in Assam, Muga and Eri sector have tremendous opportunities for creating rural employment. This study comes up with the following findings

In case of Employment (Muga)

- In one hectare of land, where Som plants are cultivated, 1029 MD of direct employment and 309 MD of indirect employment can be generated in different stages of Muga sector in Assam.

- Among them, in plantation activity, 210 MD direct employments and 50 MD indirect employments can be generated during 8 months of time.
Similarly in rearing activity, direct and indirect employment of 465 and 222 MD can be generated respectively in one month.

In post cocoon stages such as reeling and weaving, direct and indirect employment are 322 and 32 MD respectively in reeling and 32 MD and 5 MD respectively in weaving can be generated.

**In case of Employment (Eri)**

- Similarly, in one hectare of land where Kesseru plants are grown, a total of 997 (direct) and 256 (indirect) MD of employment can be generated.
- In pre cocoon (plantation, rearing) stages, 200 MD and 402 MD are direct employment while 20 MD and 190 MD respectively are indirect employment generated.
- In post cocoon activities (spinning & weaving), direct employment generated are 315 MD and 80 MD respectively and indirect employment are 24 MD and 22 MD.
- Therefore, we can say that Muga and Eri are economically viable industries in terms of employment generation.

**Hence it proves our first research question.**

**8.1.2. Empowerment of women:**

Sericulture not only provides employment but also generates continuous income round the year. Majority of the people involved in the sericulture are women. Since
sericulture does not require much education, high technology and sophisticated tools, therefore it provides a number of employment opportunities in different stages of sericulture such as plantation, rearing, reeling and weaving. Thus it is such an enterprise which leads to economic empowerment of the rural women. This study clearly shows the relationship between economic empowerment and the nine socio economic characteristics of the rural women who are engaged in different income generating activities of sericulture in the study area. Following are the major findings:

On the basis of the score obtained from nine variables, the extent of empowerment has been calculated

- Empowerment index (before involvement in sericulture) = 108.25
- Empowerment index (after involvement in sericulture) = 128.89
- The gain in empowerment = 20.64

Among the nine variables, it has been found that levels of education, income, family land holdings and trainings undergone by respondents in activities related to sericulture have a significant association with rural women empowerment.

- No association is found between age, marital status, caste, family type, family size, mass media and social participation of the respondents and empowerment.
- Except caste all the variables have positive correlation with empowerment
Table 8.1: Association between Socio-Economic variables and Empowerment

<table>
<thead>
<tr>
<th>Socio economic variable</th>
<th>Associations</th>
<th>Positive correlation</th>
<th>Negative correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Education</td>
<td>Age</td>
<td>Caste</td>
</tr>
<tr>
<td>Education</td>
<td>Family land holding</td>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td>Income</td>
<td>Marital status</td>
<td></td>
</tr>
<tr>
<td>Caste</td>
<td>Trainings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family type</td>
<td>Family type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family land holding</td>
<td>Family land holding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family size</td>
<td>Family size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social participation</td>
<td>Social participation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mass media participation</td>
<td>Mass media participation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

➤ Thus, involvement of women in income generating activities leads to empowerment of rural women.

Hence it proves the second research question.

➤ Since a positive association and positive correlation exists between empowerment and socio economic variables like education, land holdings, income of the family and trainings undertaken by respondents in activities related to sericulture, emphasis on improving the access to these factors is likely to bring about an improvement in the lives of women engaged in sericulture.
8.1.3. Market:

For any commodity, a well organized systematic market is very essential. It helps the consumers, who are willing to purchase the product at a reasonable price. The silk industry is associated with a chain of markets. Each chain produces a number of sericultural product such as cocoon, yarn/ raw silk, fabric/finished product etc. In this study we have considered three sericulture markets such as cocoon, yarn and the finished product market. Following are the major findings of Muga and Eri market in Assam.

On the basis of different channels of cocoon, yarn and finished product market of Muga and Eri, we have found market efficiency and price spread for different market of sericulture product- which are given in the following table

<table>
<thead>
<tr>
<th>Type of Market (Muga)</th>
<th>Channel 1</th>
<th>Channel 2</th>
<th>Channel 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Market Efficiency</td>
<td>Price Spread</td>
<td>Market Efficiency</td>
</tr>
<tr>
<td>Cocoon</td>
<td>1.50</td>
<td>5940/-</td>
<td>1.19</td>
</tr>
<tr>
<td>Yarn</td>
<td>10.79</td>
<td>6,500/-</td>
<td>31.00</td>
</tr>
<tr>
<td>Finished product</td>
<td>4.71</td>
<td>10,000/-</td>
<td>4.23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Market (eri)</th>
<th>Channel 1</th>
<th>Channel 2</th>
<th>Channel 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Market Efficiency</td>
<td>Price Spread</td>
<td>Market Efficiency</td>
</tr>
<tr>
<td>Cocoon</td>
<td>1.29</td>
<td>770/-</td>
<td>1.33</td>
</tr>
<tr>
<td>Yarn</td>
<td>-</td>
<td>-</td>
<td>2.60</td>
</tr>
<tr>
<td>Finished product</td>
<td>6.5</td>
<td>700/-</td>
<td>4.67</td>
</tr>
</tbody>
</table>
Muga Market

➢ In cocoon market, market efficiency is more, therefore, price spread is less in channel 1 in comparison to channel 2

➢ In yarn market, market efficiency is more, therefore price spread is less in channel 2 in comparison to channel 1

➢ Again, in finished product market, market efficiency is more, therefore price spread is less in channel 1 in comparison to channel 2

Eri Market

➢ In cocoon market, market efficiency is more, therefore, price spread is less in channel 3 in comparison to channels 1 and 2

➢ In yarn market, there is no market efficiency hence no price spread because here producer and consumer is the same person in channel 1. Out of these two channels, channel 3 market is more efficient and hence price spread is less.

➢ There are only two channels in finished product market. Out of these, market of channel 1 efficient in comparison to channel 2

➢ Thus among the three markets of Muga, yarn or raw silk market is the efficient market and hence its price spread is less than the cocoon and the finished product market. Similarly in case of Eri, finished product market is efficient in comparisons to the other two markets.
It is also found in the study that, cocoon market is least efficient in both Muga and Eri. It implies that the actual grower does not receive the appropriate market price for their cocoon.

From these analyses we can say that the structure of Muga and Eri market in Assam is not well organized.

Hence it proves our third research question.

8.1.4: Problems faced by people in sericulture:

The chain of different stages of sericulture is not independent, rather they are interdependent. Each of these stages involves a number of activities. It is seen that each of these stages also face certain problems which affect the demand/profitability of the sericulturist. Following are the important findings:

Using Garret ranking technique, the problems faced by people in sericulture has been ranked as follows:

<table>
<thead>
<tr>
<th>Problems</th>
<th>Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climatic disturbance</td>
<td>1st</td>
</tr>
<tr>
<td>Shortage of skill labour</td>
<td>2nd</td>
</tr>
<tr>
<td>Pests and diseases</td>
<td>3rd</td>
</tr>
<tr>
<td>Fluctuation of cocoon price</td>
<td>4th</td>
</tr>
<tr>
<td>Non availabilities of laying</td>
<td>5th</td>
</tr>
<tr>
<td>Lack of investment</td>
<td>6th</td>
</tr>
<tr>
<td>Shortage of rearing equipments</td>
<td>7th</td>
</tr>
<tr>
<td>Exploitation by middle man</td>
<td>8th</td>
</tr>
<tr>
<td>Transportation problems</td>
<td>9th</td>
</tr>
<tr>
<td>Shortage of pesticide</td>
<td>10th</td>
</tr>
</tbody>
</table>
Among the various constraints faced by the people practicing sericulture in the study area, climatic disturbance got the first position. Similarly shortage of skill labour, pests and diseases, fluctuation of cocoon price, non availabilities of laying, lack of investment, shortage of rearing equipments, exploitation by middle man, transportation problems, shortage of pesticide are ranked respectively to 10th position.

8.2. Conclusion:

As a traditional industry, sericulture requires low investment, gives high returns, has low gestation period, practiced by people with less education, require low technology. Thus it has tremendous opportunities for employment generation of the rural people. This study proves that 1029 MD of direct employment and 309 MD of indirect employment can be generated in different stages of Muga sector in Assam. Similarly 997 MD of direct and 256 MD of indirect employment can be generated in case of Eri sector in Assam. From this finding, sericulture can be regarded as an economically viable industry in terms of employment generation.

An important feature of sericulture industry is that a major part of the work is done by women. Therefore sericulture can emerge as the most important opportunity in generating women’s income in the rural area. Calculation of empowerment index in this study shows women get empowered when involved in the different stages of sericulture activities. However, to make
them more aware of the advantages of sericulture-their access to better education and trainings, mass media participation, control over their own income, family land holdings pattern should be increased. Only with higher education, they will be able to take advantage of the benefits given by government schemes. This will not only lead to more production but quality of production will also improve.

For more production, a systematic and efficient market is required, which is lacking in Assam. In this study it is found that, due to the presence of large numbers of middle man or traders, price spread is more in Muga and Eri market in Assam and hence market is less efficient, especially in cocoon market. Thus it can be concluded that to increase market efficiency, role of middle men should be reduced and the market should be more regulated and organized. Then only farmers will get better price. This will also benefit consumers to a large extent as they will get quality product at a lesser price.

In spite of sericulture being a traditional industry in Assam, till now it has not been able to compete with other states. This is because of a large number of problems associated with this sector. In this study, with the help of Garret Ranking Technique, the problems are ranked. Among the problems, the most important one is the climatic disturbance. Although climate is always instable, it can be stabilized to some extent by controlling the industrial pollution in the study area. Similarly most of the problems in the study
area are man-made and can be overcome to a large extent. In this regard, government intervention is necessary.

The study also identified the causes of non-adoption of sericulture by the present generation. Here NGOs and Private Entrepreneurs should formulate appropriate strategies with R/D support of CSB and other development agencies. At the same time adequate effort should be made to formulate pragmatic schemes for fruitful utilization of the byproducts of sericulture so that it may attract the attention of the new generation to choose sericulture as a sustainable means of livelihood.

Assam is one of the potential areas with suitable climatic condition for development of Muga and Eri silkworm seed at various levels to meet the requirement of basic seed of other states. Thus silk industry of Assam should be expanded in such a way so that it satisfies the market demand. In Assam people practice sericulture only to satisfy their domestic consumption and use it as a secondary source of income/livelihood during leisure hours. Moreover, they are satisfied with their little produce and they never think of developing the industry. Most of the people are not aware of yields and quality aspects of different activities which results in low productivity. Hence judicious utilization of improved technological tools in different activities may play a vital role in sericulture sector.
8.3. Suggestions and Policy Implication:

Employment Generation

It is found in the study that sericulture is a traditional activity in Assam and it can be taken up as an economically viable industry in terms of employment generation. Again it is also known from the secondary source that there is always a scarcity of Muga and Eri products in relation to its demand. Therefore to reduce the gap between demand and supply, production should be increased and it can be done by employing skilled, educated and trained people.

➢ Modernization and clusterization of different stages of Muga and Eri will lead to specialization. Use of skilled labour will lead to more and quality production.

➢ Skilled labour should be employed instead of family labour for proper development of Muga and Eri especially in rearing stages, with proper infrastructure which will increase production.

➢ To touch the target group, proper training should be given specially to young and educated person, so that they can be employed in this sector and earn more income during very short period by using advance scientific technology.
➢ To promote Muga and Eri in Assam the educated young generation should be make aware, and awareness programme (Eri Mela, Muga Mela) can be arranged in the educational institutions.

➢ The gap between domestic requirement and supply of both quality and quantity of Muga & Eri silk should be reduced through fiscal and non-fiscal measures

**Empowerment of Women**

In many studies, it is also estimated that more than 50% of the population engaged in sericulture are women. In our study also, we have found that a large number of women are economically empowered by taking income generating activities related with various stages of sericulture. Thus regarding empowerment of women, the study comes up with the following suggestions:

➢ Women related schemes can be generated for development of Muga and Eri for both tribal and non-tribal areas because women are the heart of sericulture industry

➢ There is a positive correlation between economic empowerment and socio economic variables like education, land holdings, income of the family and trainings undertaken by respondents in activities related to sericulture in the study. Therefore, emphasis on improving the access to these factors is likely to bring about an improvement in the lives of women engaged in sericulture.
Market

It is also found in our study that, there is no appropriate efficient market in case of Muga and Eri product in Assam. To establish an efficient market of Muga and Eri product in Assam, following steps are suggested

➢ Muga producers should go for silk mark logo which will assure people of the purity and quality of the product.

➢ Export of Muga and Eri raw silk should be less. Instead of export of raw silk, finish product (diversified product) should be exported otherwise it will be adversely affect the weaving sector.

➢ The sericultural product market should be regulated. And brokers’ role should be minimized. In this case, Government role is very important.

➢ Through introduction of diversified products in domestic market, size of market can be increased which will link sericulture to the development process.

➢ To compete with globalised marketing, converting existing popular convention practices to advanced technologies in Muga and Eri sector in Assam is essential.

Problems

In spite of the vast potentiality of sericulture, people consider it as a part time activity and do not practice it scientifically. This is because of the number of problems associated with this industry. These problems can be overcome by:
Recent scientific development shows that indoor culture of Muga is more productive than outdoor culture. Therefore Muga grower should adopt indoor rather than outdoor culture

Introduction of insurance facility for Muga grower, to protect the heavy losses due to the climatic disturbances.

To increase the production of good quality seed especially in case of Muga, there should not be any industry (tea, paper etc.) in a stipulated area where Muga rearing is done.

Since Muga and Eri (vanya silk) production is regarded as a forest-based activity, therefore aorestation programme should be increased under Joint Forest Management scheme so that there is an expansion of Muga and Eri host plant (Som & Kesseru) cultivation.

For overall development of various stages of Muga and Eri, NGOs and SHGs should be incorporated within the Government schemes