

<b>21</b>	Development of Sericulture in light of competitive environment	Bureau of Integrated Rural Development, Guwahati	2001
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## EXECUTIVE SUMMARY

BIRD has conducted an exhaustive study covering almost all aspects of sericultural activities, starting from available secondary data to collection of primary data in respect of host plant acreage, silkworm rearing, cocoon production, raw silk production, reeling, spinning of cocoons upto fabric and apparel production. Involvement of various weaving units of both private entrepreneurs and co-operatives, Assam's main silk fabric production township — Sualkuchi, village rearers, weavers, marketing organizations and so on were studied in detail. Oak Tassar is a new introduction in Assam. Nagaland has been practicing oak tassar culture comparatively for a longer time. However, the culture has not yet gained much popularity among the rearers of the Region. Steps may be taken to popularize the culture in the states.

This project has been formulated as per the guidelines given by the North Eastern Development Finance Corporation Ltd.(NEDFi), Guwahati.

A brief executive summary of findings in different categories of studies is appended below.

### **1. Host plant area**

**Eri :** Eri silkworm host plants, castor and kesseru are not generally cultivated by rearers but they use leaves of wildy grown plants available nearby. Castor being an annual crop, yearly cultivation cost becomes high as compared to the income from sericulture.

Intercropping kesseru with high land agricultural crops for later stages feeding of eri worm with available castor leaves for early worms is suggested.

**Muga :** Som is the primary host plant of muga worm. New plantations of som among some rearers in most of the districts are seen due to financial assistance etc. from Govt., CSB and UNDP sub-programme. Some new rearers have also come up in muga food plant plantation; subsequently, some rearers converted som field to mini tea garden, especially in Upper Assam. This needs careful consideration. Use of Mejankori, an alternative muga food plant, which is reported to yield high quality silk was not noticed during our survey. Attempts may be made to popularize Mejankori plantation for its use in muga rearing.

**Mulberry :** Compared to eri and muga cultures, mulberry culture is not getting so much importance in NE states. A few rearers have 10-15 mulberry trees in their homestead. Increasing mulberry plantation with high yielding varieties merits greater attention from Government, CSB, NGOs etc.

## 2. Seed Organisation

**Eri :** Eri seed is generally maintained among few rearers. Govt. Eri Seed Grainages also maintain eri seeds and supply to the rearers. Timely supply of sufficient quantity of seed and encouragement to the rearers to maintain enough castor and kesseru leaves in their fields would increase the culture in the villages.

**Muga :** Availability of healthy muga seed is a major problem of this culture. CSB has P<sub>4</sub>, P<sub>3</sub>, P<sub>2</sub> and P<sub>1</sub> organisations for muga seed supply. But, this system is only in an experimental stage and muga rearers are reluctant to use loose eggs as compared to their traditional system of practical surveying pre-rearing seed broods in rearers' fields themselves. This new system of loose seed supply would be acceptable to the rearers in due course if disease free seed is assured. Govt. and CSB should encourage adopted seed rearers to produce good quality disease free seed or seed cocoons.

**Mulberry :** Mulberry seed production in Assam is a problem owing to the high temperature and heavy rainfall in summer / monsoon seasons. So, the system of procuring mulberry seed from Karnataka, Jammu & Kashmir seed stations of CSB is in practice. The State Government is spending crores of rupees annually in this system. It is, therefore, suggested to establish Govt. and private seed farms for this crop in the cooler districts of Nagaland and Meghalaya for supplying mulberry seeds in the NE region, in addition to the existing system stated above.

## 3. Rearing

**Eri :** Rearing eri worm in a very small scale is found among rearers of Karbi Anglong, Lakhimpur, Dhemaji and Darrang districts. It should be expanded to new areas with help and encouragement from the Govt., C.S.B, NGOs etc. to increase plantations as well as enough seed supply and providing market facilities of their product. Eri worm is hardy as compared to muga and mulberry worms and thrives in hot climate. So, in adverse climate too it can be reared and the culture can be expanded in rural areas.

**Muga :** Muga worm rearing is a tough culture due to uncertain climatic conditions in summer months. Wind, thunder shower, insect pest, predators and diseases like pebrine and flacherie are the common problems faced by the rearers due to outdoor rearing of muga worm. So, the technique of dwarfing the som plants and covering the plants with plastic nets at least in the early two or three instars of the worm, may be conveniently adopted by the rearers. This is needed, not in the commercial Jethua and Katia crops, but in the seed crops of Aherua, Bhadia and Jarua, particularly for the few adopted seed rearers.

**Mulberry :** Mulberry silk worm rearing is not too much problematic owing to it being an indoor culture. Rearers generally do not have separate rearing house. They use a part of their living room for worm rearing. So, largescale rearing is in no way practicable for them. Grants, technical help, rearing houses, timely seed supply, increased mulberry

plantation in the rearers' homestead or in a protected larger area may undoubtedly increase the culture among the rearers.

#### **4. Reeling / spinning**

**Eri :** Eri cocoon is not reelable owing to the irregular spinning of the filament by the worm. Continuity of the filament is not there to enable reeling. So the spinning of the cocoon either in dry stage or in wet stage is to be done in Takli or in spinning machines. Takli is a time consuming low cost device. Encouragement to the rearers to use pedal driven and motorized spinning machine is needed. Financial help from Govt., CSB, NGOs etc. to procure such machines for commercial spinning of eri cocoon will help quality thread production with time economy.

**Muga :** Muga cocoons are commonly reeled in bhir or bhowri—a very low cost reeling device. But two operators are needed—one for boiling and throwing the ends of the cocoons and the other for rolling the wheel and the axle of the device and for putting the thread in a bamboo bobbin. Various reeling machines / devices—pedal driven, electrically operated have been fabricated by various designers. Presently, a new device manufactured by a firm from Hyderabad under the technical supervision of CSB is being popularized among the rearers. But, the high cost of the machine is a problem to the individual rearers. Even Sualkuchi is not interested to use such machine because of their old system of bhir reeling and contract system of reeling through nearby reelers. Low cost economic reeling devices for muga is needed to have fine and twisted silk.

**Mulberry :** Mulberry silk reeling is the easiest of all compared to eri, muga and tassar. Pedal / hand driven reeling machines are commonly used by the rearers. In case of commercial establishment, as in Karnataka, filature system is prevalent. Reelers of Assam mostly reel mulberry cocoon without maintaining the optimum number of cocoons to be taken to make the thread. 18-20 cocoons are sometimes reeled to have a thick thread, which is not accepted by Sualkuchi weavers. So, it is suggested to take 8-10 cocoons as maximum in reeling a thread and that too is to be re-reeled and twisted to a 2 ply and 3 ply silk thread for using as warp and weft in looms respectively. Quality control and gradation of cocoons before reeling are to be adopted for quality thread production. Govt. Reeling and Twisting units are to take care of this case.

#### **5. Weaving**

**Eri :** Eri weaving is not yet a problem for weavers of Assam. Rearers are to be trained to make graded thread for international customers. Spun silk mill at Jagiroad is to take care of largescale procurement of eri cocoons from Karbi Anglong at a moderate price with cash payment to encourage the rearers. A few weaving units have started Eri-muga, Eri-mulberry mixed designed fabric production already. Other weaving units may be encouraged to adopt such practice. Rural weavers should be safeguarded to get remunerative price for their products.

**Muga :** Domestic weaving of muga silk in villages is confined to a few households only. Major lot of cocoons is generally sold to Sualkuchi through agents. Some local NGOs have taken initiative in reeling and weaving of muga cocoon / fabric which is very encouraging. Sualkuchi type weaving infrastructure is to be developed in prolific muga growing areas of Assam, Meghalaya and Nagaland. The cost of muga finished product should be minimized to attract more customers.

**Mulberry :** Mulberry silk weaving of Assam's silk is not popular among Sualkuchi weavers or even among private or co-operative weaving units of Assam. All of them prefer Mysore silk because of the systematic grade of 2-3 plies finer silk. In case of Assam's and NE states mulberry silk, whatever the quantity produced, should have the same grade and quality of Mysore silk. Domestic weavers should be trained and encouraged in blending, dyeing and weaving of designed fabric of this silk.

## **6. Marketing**

Marketing of eri, muga and mulberry cocoons, silk and fabrics is not a major problem if the quality is maintained. World market is open for Assam's (NE states) silk fabrics. But the quantity produced is not sufficient as per demand. Some private organizations reported that they have wide international market in the above silk products but the production is not upto the demand of the buyers. Various designed fabrics, maintaining quality and quantity would however help in capturing the world market in addition to local market. Help and encouragement to the rearers, reelers and weavers in all aspects of marketing of cocoon, silk, fabric etc. are necessary to meet the WTO specification. Interest of international agencies, exporters and local suppliers are to be looked into for making sericulture industry of the states of Assam, Meghalaya and Nagaland flourishing