

Sericulture: Importance and potential

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Introduction

Sericulture is the production of raw silk by means of raising caterpillars (larvae), particularly those of the domesticated silkworm (*Bombyx mori*).

The production of silk generally involves two processes:

1. Care of the silkworm from the egg stage through completion of the cocoon.
2. Production of mulberry trees that provide leaves upon which the worms feed.

Importance of sericulture in developing countries:

The art of silk production is called sericulture that comprises cultivation of mulberry, silkworm rearing and post cocoon activities leading to production of silk yarn. Sericulture provides gainful employment, economic development and improvement in the quality of life to the people in rural area and therefore it plays an important role in anti-poverty programme and prevents migration of rural people to urban area in search of employment. Hence several developing nations like China, India, Brazil, Thailand, Vietnam, Indonesia, Egypt, Iran, Sri Lanka, Philippines, Bangladesh, Nepal, Myanmar, Turkey, Papua New Guinea, Mexico, Uzbekistan and some of the African and Latin American countries have taken up sericulture to provide employment to the people in rural area.

Multipurpose use of sericulture

Apart from silk, there are several other by-products from sericulture. The mulberry fruits are rich in minerals and vitamins and from the roots, barks and mulberry leaves several ayurvedic and herbal medicines are prepared. Some of the woody mulberry trees provide timber which are resistant to termites and the timber is used for making sports items, toys etc. The mulberry branches after silkworm feeding are generally dried and used as fuel particularly in the villages. The foliage of mulberry is used as a fodder for cattle. The mulberry trees are also planted in the embankment area for protection of the soil to prevent soil erosion, and mulberry trees are planted as avenue trees. The silkworm pupae are rich in oil content and pupal oil is

used in cosmetic industry and the remaining pupal cake is a rich source of protein suitable for poultry and fisheries. In some tribal population, the people eat eri pupa as a source of protein and nourishment. The silkworm litter is used for bio-gas production and used as a fuel for cooking in the rural area. Thus, sericulture not only provides silk for fashionable clothing, it also provides several very useful by products to the human society. Therefore, sericulture development provides opportunities to improve the living standards of people in the rural area in developing countries.

Future demand for silk

The present global silk production is fluctuating around 70, 000 to 90, 000 M.T. and the demand for silk is annually increasing by 5%. With the increase in population and also with the increased demand for fashionable clothing items due to fast changing fashion designs in developed countries, the demand for silk is bound to increase even more. For increasing the silk production we require highly productive mulberry varieties and silkworm races and also silkworm races tolerant to adverse climatic conditions and diseases which can come mainly from the sericultural germplasm resources and also from the wild relatives of *Bombyx* available in the natural habitats.

Potential

India has the unique distinction of being the only country producing all the five known commercial silks, namely, mulberry, tropical tasar, oak tasar, eri and muga, of which muga with its golden yellow glitter is unique and prerogative of India.

Mulberry sericulture is mainly practised in states such as Karnataka, Andhra Pradesh, Assam and Bodoland (Kokrajhar, Chirang, Baksa and Udalguri districts of Assam), West Bengal, Jharkhand and Tamil Nadu who are the major silk producing states in the country. North East has the unique distinction of being the only region producing four varieties of silk viz., Mulberry, Oak Tasar, Muga and Eri. Overall NE region contributes 18% of India's total silk production.

India is the second largest producer of silk in the world. Among the four varieties of silk produced in 2020-21, Mulberry accounted for 70.72% (23,860 MT), Tasar 8.02% (2,705 MT), Eri 20.55% (6,935 MT) and Muga 0.71% (239 MT) of the total raw silk production of 33,739 MT (Provisional).



The silk production has been reduced in the country during 2020-21 due to the disruptions caused by the Covid-19 pandemic. The total raw silk production in the country during 2020-21 was 33,739 MT, which was 5.8% lesser than the production achieved during the previous year 2019-20 and registered around 86.5% of achievement against the annual silk production target for the year 2020-21. The bivoltine raw silk production declined by 3.4% to 6,772 MT during 2020-21 from 7,009 MT during 2019-20. Similarly, vanya silk, which includes Tasar, Eri and Muga silks, have reduced by 13.8%, 3.7% and 0.8%, respectively during 2020-21 over 2019-20. The area under mulberry has reduced by 0.8% in 2020-21 compared to previous year. (2.38 lakh ha.)

The export earnings during 2020-21 were Rs. 1418.97 crores.

The estimated employment generation under sericulture in the country was 8.7 million persons during 2020-21 compared to 9.4 million persons in 2019-20, indicating a reduction of 7.4%.

The demand for superior quality bivoltine silk is 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 bivoltine silk production.