# Sericulture (Silk Worm Rearing) Diversity Study in Jhalmala Region of Kawardha (Kabirdham)District

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**Abstract**

This research paper presents an initial analysis of the possibilities, prevailing methods, silk-worm species, and socio-economic impacts of sericulture (silk worm rearing) in the Jhalmala region (Kabirdham, Chhattisgarh). While sericulture has a traditional history in India, especially in Chhattisgarh, there is limited study available for small, less-documented areas like Jhalmala. The objective of this study is to identify local host plants, insect species, farming methods, and its impact on production and livelihood. Additionally, it highlights the barriers and opportunities that could make sericulture a stable and profitable industry in Jhalmala. Ultimately, the paper suggests that, with appropriate training, resources, and market facilities, sericulture could become an important source of .income for rural and tribal communities in Jhalmala

## Introduction .1

Sericulture, or silk worm farming, is considered an agricultural-based industry that has been practiced for centuries in India. The rearing of silk worms such as mulberry (Mulberry), wild silks (like tasar/kosa), eri (Eri), and muga .(Muga) is done for silk production

Sericulture has certain characteristics that make it viable with minimal capital, can be done on domestic or limited land, and can provide sustainable employment and income for rural populations (farmers, laborers, especially .(women

In Chhattisgarh, sericulture, particularly wild silk (wild silk / Tasar-Kosa), has had significant potential. Over the past decades, state governments and relevant departments have launched various schemes to promote this, and many .rural and tribal families are involved in the practice

However, most studies and data focus on regions where sericulture has already been established, such as forest areas, Bastar, Raigarh, etc. A study is needed for regions like Jhalmala, where there may not be a long-standing tradition of sericulture, and where resources are limited. The exploration of the diversity, possibilities, challenges, .and social impacts of sericulture in such an area is crucial for policymaking and development Hence, this research paper presents an initial study of the present state, potential, and challenges of sericulture in .the Jhalmala region

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**Objectives and Research Questions .2**

**:Objectives**

- .To identify potential methods and host plants for sericulture in Jhalmala
- To explore the silk-worm species (Mulberry, wild silks like Tasar/Kosa) suitable for the local ecology .and resources
- To analyze the livelihood, employment, and socio-economic status of local .families/villages/communities involved in sericulture
- To identify major barriers (training, market access, resources, public awareness) to adopting .sericulture
- .To suggest ways to establish sericulture as a sustainable and profitable business in Jhalmala

**:Research Questions**

- ?What host plants are available or can be cultivated in the Jhalmala region
- Is it feasible to rear mulberry silkworms or wild silkworms (such as Tasar/Kosa) based on local ?ecology and resources

- If sericulture is already being practiced, how many families/villages are involved? What is its ?contribution to their livelihood, employment, and income
- ?What are the key problems or obstacles faced by local people in starting or continuing sericulture
- ?How effective are the government schemes and support available for sericulture
- ?What steps can be taken to make sericulture sustainable and profitable in the future for Jhalmala

**Literature Review .3**

**Basic Concept of Sericulture 3.1**

Sericulture, also known as silk worm rearing, involves the rearing of silkworms, providing them with appropriate .host plants, and extracting raw silk threads after the silkworms undergo their lifecycle and produce cocoons Sericulture is a cottage industry that can be initiated with low capital, limited resources, and household labor, .making it suitable for rural areas and small farmers Its labor-intensive and eco-friendly nature (especially forest-based wild silks) makes it an ideal employment source .for rural reviving, livelihood, and development in tribal/mining regions


**Sericulture in India and Chhattisgarh 3.2**

India is one of the leading countries in silk production, producing all four major types of commercial silk—mulberry, .wild (Tasar/Kosa), eri, and muga

Chhattisgarh has significantly developed sericulture as a source of employment and livelihood, especially in tribal .areas

Wild silk, particularly Kosa silk, is notable in the state. This silk is produced by insects (e.g., Antheraea mylitta) .feeding on local trees like Arjun, Sal, and Saja

Despite the growing recognition of wild silk, most production statistics and better quality silk data come from .districts like Bastar, Raigarh, Korba, and Janjgir-Champa

Chhattisgarh received national recognition as the "Better Sericulture State" in 2025, marking the success and .expansion of sericulture in the state

However, regions like Jhalmala, which are small and less documented, remain largely unexplored, highlighting the

.need for region-specific research

**Challenges and Constraints in Sericulture 3.3**

Despite the benefits of sericulture, several challenges impede its full-scale development, such as lack of natural .resources, technical knowledge, insect diseases, market access, and insufficient supporting facilities Due to these constraints, many farmers or families initiate sericulture but fail to scale it up, thus preventing the industry from reaching its full potential. It is crucial to provide environmentally sustainable plans, training, market .support, and continuous monitoring when establishing sericulture in new regions

**Study Area: Jhalmala .4**

This section provides a description of the Jhalmala area based on geographic, socio-economic, ecological, forest resources, and land use patterns. As data is currently unavailable, this section is presented as a template that can be .filled in based on field surveys, interviews, and local statistics

**Geographic and Social Background 4.1**

- .Location: Jhalmala village/area, Kabirdham (Kawardha) district, Chhattisgarh
- .Land Form: Agricultural land, forest areas, hill/tribal territories (if applicable)
- Community: Tribal/rural families with traditional agriculture and forest-based livelihoods, other .livelihoods (farming, forest products, wage labor)
- Resources: Local forest trees (on which wild silk worms may thrive), water sources, land, social .structure, cultural practices
- **Potential Host Plants and Ecological Suitability 4.2**
- .If local trees like Arjun, Sal, Saja are available, then wild silk (Tasar/Kosa) rearing is possible
- If people have access to agricultural land or can cultivate mulberry, then mulberry-based sericulture .is possible
- Climate, weather, rainfall, and temperature conditions will determine which type of silk (Mulberry, .Tasar, Kosa, Eri) can be successfully produced locally

**Socio-Economic Condition 4.3**

- The economic condition of families, availability of land and resources, alternative livelihood options, .agriculture or forest-based livelihoods
- .Employment demand, especially for women, scheduled castes/tribes, and youth
- Local social structure, skills, traditional knowledge—whether people are already engaged in agriculture or forest product collection, and whether they know activities like handloom weaving, silk .production, etc

## Methodology .5

:The proposed methodology for this research is as follows

### Data Collection 5.1

- **Primary Survey**: Select villages/families in the Jhalmala region that may be involved in agriculture, .forest products, or potentially sericulture
- **Questionnaire**: Collect information from local farmers/families/tribal communities regarding host plants, land, resources, daily life, income, employment, traditional skills, available resources, interests, .barriers, etc
- **Guided Interviews / Focus-Group Discussions (FGDs)**: Engage with local elders, women, youth, .etc., to understand their socio-economic condition, livelihood, aspirations, and challenges
- **Field Observation**: Study any ongoing activities related to silk worm rearing, forest products, forest trees, or silk production. Assess the availability of host plants, land conditions, water sources, and the local .environment
- **Secondary Data**: Collect government reports at the state/district level, schemes by the Sericulture Department, cocoon banks, Tasar/Kosa production statistics, history, and other research papers. For example, .information from the Chhattisgarh government's sericulture department

### Data Analysis 5.2

- **Qualitative Analysis**: Analyze data from interviews, FGDs, and observations, focusing on people's .perspectives, socio-economic impact, barriers, environmental understanding, local culture, etc
- **Quantitative Analysis**: If possible, collect data on sample families, land area, production (if any), .potential production, income, labor input, etc
- **Comparative Study**: Compare the findings from Jhalmala with other districts/areas in Chhattisgarh where sericulture is already established to understand where Jhalmala stands and what development .direction is required

## Expected Outcomes / Predictions .6

:The potential findings from this study could be

- Jhalmala may traditionally rely on forest products or agriculture-based livelihoods, but some families .may consider adopting sericulture or forest resource-based livelihoods (wild silk, forest products)
- If local forest plants (like Arjun, Sal, Saja) are available, there is potential for wild silk (Tasar/Kosa) .rearing. This could be environmentally friendly and initiated with minimal investment
- Mulberry-based sericulture may also be possible for families with agricultural land or nearby .resources

- If training, technical guidance, market connections, cocoon banks, and reeling/thread production facilities are provided, sericulture could become a permanent source of income/employment for rural and .tribal families
- However, significant challenges may arise, such as availability of host plants, insect diseases, .weather conditions, investment, resources, market access, local awareness, and organizational support

**Suggestions .7**

:If this study provides support, the following suggestions could be useful for the Jhalmala region

- Identify and conserve local host plants (forest trees or mulberry) at the local level, providing a base .for both wild silk and mulberry silk production
- Provide training, awareness, and technical support to the community and families, so they understand .both scientific and traditional methods of sericulture
- Establish cooperatives/self-help groups to facilitate cocoon collection, reeling, thread production, .and market access
- Collaborate with government and non-governmental organizations to provide cocoon banks, .seed/insect supply, reeling machines, weaving facilities, market linkages, and value addition services
- Promote environmentally sustainable practices—such as wild silk production, forest conservation, .and the protection of natural host plants—and ensure balanced use of land/forest resources
- Design programs and initiatives based on the local social, cultural, and economic context to make it .easier for the community to engage

**Potential Limitations .8**

:This research may face certain limitations

- There may not be extensive data available for the Jhalmala region, making initial data collection .challenging
- Limited information on regional geography, forests, land use, social structure, tribal/newly-settled .villages may pose challenges in field surveys and interviews
- Resource constraints (financial, human, time) may make it difficult to obtain necessary host plants, .water, land, reeling/threading facilities, etc., for starting sericulture
- Local people's awareness, interest, training, market access, and trust in the process could be social .and economic barriers
- Long-term sustainability of rearing, monitoring, quality control, market pricing, and thread/textile .production stability may remain uncertain

## Conclusion .9

Sericulture, or silk worm rearing, has been a traditional and important livelihood source in rural and tribal areas of India, particularly in Chhattisgarh. Whether mulberry-based or wild silk (Tasar/Kosa), sericulture can be started with low investment, limited resources, household labor, and traditional knowledge, contributing to rural economies, .livelihoods, employment, and skill development

In regions like Jhalmala, which are less-documented and possibly have marginal resources, sericulture could be a sustainable and profitable business if region-specific surveys, understanding local host plants and ecology, and .considering the socio-economic condition and aspirations of the community are carefully considered However, to establish this as a viable business, training, supporting facilities, market linkages, value addition, government/departments' support, and community cooperation are essential. Additionally, environmental balance, .natural resource conservation, and social acceptance must be prioritized

Thus, this study could serve as an initial but important step for the Jhalmala region, laying the foundation for future .extensive fieldwork, data collection, and policy interventions

## Proposed Future Work .10

- Conduct a detailed field survey in 3-5 villages in the Jhalmala region to assess host plants, land, and .forest conditions, and explore the potential for wild-silk rearing
- Engage with local families, tribal communities, and farmers to understand their livelihoods, interests, .resources, time availability, and capacity
- Start a pilot project with 5-10 families for mulberry or wild-silk rearing, and assess its success, .challenges, and cost-benefit analysis
- If successful, establish a cooperative group/self-help group (SHG) for reeling/thread production and .market linkage
- Develop an environmentally sustainable, community-based model that could gradually expand .sericulture across the entire Jhalmala region

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