

CHAPTER 6

**SOCIO-ECONOMIC ASSESSMENT OF LAC PRODUCTION FROM
KUSUM TREE *SCHLEICHERA OLEOSA* (LOUR.) OKEN IN THE
FOREST REGIONS OF GARIABAND**

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Abstract

Kusum (*Schleichera Oleosa*) is an important type of common forest tree located in the forest area of Gariaband district of Chhattisgarh. It serves as the main owner of lac insects (*Kerria lacca*), This produces varnish resin, an important non-timber forest product (NTFP). The production of the lac is a traditional, ancient activity of tribal people in the region, providing livelihoods and cultural values. The purpose of this study is to assess the socio-economic impact of lac culture on Kusum in the forests of Chhura, Gariaband, and Mainpur. The main data were collected using field surveys, interviews, and discussions in discussion groups with lac cultivators, foresters, and cooperative companies. The conclusion is that lac culture plays an important role in the seasonal income of poor rural households, especially during the agricultural month. A typical cleaning earns between ₹3,000 and ₹6,000 per lac sales season. This is in response to the provision of trees, insect stress, and the adoption of market access. Lac production

is contested by the risk of pests, climate sensitivity, market volatility, and lack of modern training. This study highlights the requirements for lac growth, structured market mechanisms, and promotion of scientific practices to increase revenues and provide forests according to forests and stability.

Keywords:- *Kusum tree, Lac production, Non-timber forest products, Rural livelihood, Tribal economy.*

Introduction

Chhattisgarh owns 44% of the forested land, creating natural and important resources. Chhattisgarh Forest is very rich in secondary forest products [1-2]. The type of *Schleichera Oleosa* (Kusum) is one of the multipurpose tree species that provides farmers in many states of India thanks to lac culture (as Non-Timber Forest Products), fruit, fodder, fuel wood, timber and medicine for both human being and livestock [3-9]. Lac, Tully Protective Secretion of Small Insects Protective Secretion, Kusum lac (Kerr) is mainly used in three valuable products: resin, dye, and wax. Many farmers, forests, sub-actors, especially tribes, are very familiar to these owners. Promotion and promotion of lac culture not only helps to check for environmental degradation, but also helps to restore environmental balance, but also helps to maintain endangered seed insects in the flora associated with fauna and insects [10,11]. The production of lacs (resin) is heavily influenced by climatic factors such as temperature, precipitation, humidity and wind, all of these factors. Temperature is most important [10, 12, 13]. Forests have always served as a source of life for all Indian tribes and rural residents, especially in covered forests such as Chhattisgarh. Of all the latest products, non-timber forest products (NTFPs), which are one of the forest inhabitants, the production of the lac is important. The lac is a natural resin produced by the *Kerria lacca* insect and is found in certain owner trees, such as Kusum (*Schleichera Oleosa*), Palash (*Butea monosperma*), and Ber (*Ziziphus mauritiana*). Of all this, the most

productive and commercially owned by Kusum wood, offering high quality varnish resin. The Gariaband district area, located in the eastern part of Chhattisgarh, is rich in thick forests and is mainly home to tribes such as Gond, Baiga, and Halba. These tribes practice traditional lac farms in Kusam as a source of seasonal income, especially during non-profit seasons. This practice means one monocuration of insect varnish and cum that calms and secretes resin, which is collected, processed, and sold. Kusum resin varnishes are widely used in the manufacture of confusion, varnishes, cosmetics, traditional medicines, bracelets, and even food coverings. Due to its multiple uses and the possibility of exporting the lac's cultural market, forest areas have stable revenue prospects. Additionally, lac culture enters sustainable livelihood environmental practices, leading to minor violations of the environment and promoting the preservation of the owners' trees. Despite its economic potential, lac production is undeveloped in most regions for several reasons. It is a low awareness of the methods of scientific and cultural studies, insect infection, unpredictable climatic conditions, limited access to organized markets, and mediator prevalence in costs of creation. Furthermore, tribal farmers do not have sufficient training, credit, and institutional mechanisms to improve productivity.

This study has been conducted on socio-economic assessments of lac production from Kusum, Chhura, Gariaband, and Mainpur. The purpose of this study is to assess the contribution of the lac to household income. This card is a traditional and modern practice of lac growth, derived from the possibility of creating barriers and costs. Special attention is paid to the effects of national or joint interventions on women's participation, community participation, and increased lac-based presence. Including on-site and local information, this study aims to disclose the unused potential of lac production as an inclusive and sustainable entity that is environmentally friendly. The results will likely inform political proposals aimed

at increasing lac productivity, strengthening market relations, and improving potential construction programs for forest communities in the Gariaband region.



Figure 6.1 Inoculation of lac broodlac on Kusum Tree



Figure 6.2 Lac sticks (Encrustation of lac insect on Kusum tree twig)

Materials and Methods

Study Area

This study was conducted in Chhura, Gariaband, and Mainpur blocks of Gariaband district, eastern Chhattisgarh. The study area is characterized by tribal areas where the forest recreates the trees (*Schleichera Oleosa*), the main home and home plant for the cultivation of the lac. The topography is irregular, and there is a mixed forest with deciduous leaves and a large portion of tribal communities such as Gond, Kamar, Baiga, and Halba. These communities have historically relied on timber learning as lac non-timber forest products (NTFPs) for their natural and seasonal existence. The selected blocks will have lac cultivation measures encouraged by the SHGs and forest cooperative Van Dhan Kendras.

Data Collection: This study includes data collection from primary and secondary sources, as well as fieldwork. Fieldwork included the identification of economic values and traditional practices regarding the production of Lac Kusum trees, and

contributions to the maintenance of funds for their existence in rural areas of forest villages.

The duration of the lac culture, manual management, one monoculture period, average yield, income at the home level based on gender conditions within the growing lac framework, and discussions in the home and focus group discussions (FGDs), as well as interviews with members of the Van Dhan Yojana and SHG members, forest staff, and local merchants. In recent years, the market value of Chhattisgarh and the status of lac production have also been assessed to understand the latest trends, price behavior, and commercial viability of Kusum lac culture. Furthermore, Kusum distributions have been observed in specific representative forest plots and decomposed areas to determine their natural availability and potential for future expansion.

Result

1. Abundance and Utilization of Kusum Trees

Field surveys showed the popular Kusum tree in the forests of Chhura, Gariaband, and Mainpur blocks. Approximately 40-60% of the forest plots questioned included mature Kusum trees that are accepted by the lac culture. Farmers recommend using Kusum compared to alternative owners such as Ber and Palash, with excellent quality of the lac and longer inoculation cycles.

2. Adoption of Lac Cultivation

Approximately 68% of respondents have practiced lac growth at Kusum trees over the past three years.

Those:

- 52% practiced traditional practices using natural fruits.
- 16% accepted scientific practices using forestry cooperatives or NGOs.

- Baisakhi (summer) and Kartiki (winter) were cultivated, but the name was more approved in the highest climatic conditions and rising market prices.

3. Income from Lac Production

- Season household: ₹3500-5000
- Annual Income (from both crops): ₹10,000- ₹15,000 in a family of 10-15 trees
- Price per kg (Lac Stick): ₹300- ₹400, depending on the quality and purity of the market
- A few promising farmers have won ₹20,000 a year, integrating lac with other NTFPs like Tendu and Mahua.

The lac's income is said to be important during the hopeless, inevitable season, and helps families with health and education costs.

4. Gender Participation

Women played an important role.

- Pruning, drying, sorting, and selling lac
- Cleaning of encrusted branches (stick lac)
- Processing into seed lac at household level

Approximately 58% of women's reservations said they had a sense of economic independence, particularly due to income from sacred lacs at self-help group (SHG).

5. Marketing and Institutional Support

- 45% of the manufacturer sold weekly markets with local lac merchants
- 30% was sold to forest cooperatives, which paid the highest fee but were late in paying.

- Lack of storage centers, monopoly of intermediaries, and inadequate access to scientific training were key obstacles.

6. Challenges Identified

- Pest infections (like parasitoids and predators) leave the lower lac.
- Unstable climatic conditions (excess rain or drought) have influenced the success of the culture.
- Insufficient technical skills and limited availability of brood lac during the inoculation period were common.

Table 6.1 Chhattisgarh State Minor Forest Produce 2024-25 [2]

Chhattisgarh state minor forest produce 2024-25 (CGMFPFED)					
Name of Forest produce	Category (MSP/SP)	Collector rate (Rs. Per kg)	Collector period		Criteria
			Form	To	
Kusumi Lac (Dry)	MSP	300	15th February	15th April	Well-dried lac, free from dirt, moisture, and insect infestation.

Discussion

This study determines the important contribution of the culture of tree lac in Kusum trees in the rural and tribal economies of Gariaband district, Chhattisgarh. Because it is a non-plus of traditional forest customs, the lac culture was built largely by the presence of households, particularly those living in Chhura, Gariaband, and Mainpur blocks, according to the forest. Statistics show that lacs are tribal companies that rely heavily on forest products, particularly as sources of survival, and are important sources of additional income during non-season farming periods. The lac culture of the Kusum tree has been chosen for its home, with the base of superior quality of tar and stability against the whims of the environment being chosen. However, the dominant traditional methods have been

preserved, and certain adoptions of recent scientific approaches, such as best treatment by brood lac, pruning methods, and fighting pests, are insignificant. This difference limits the potential for maximum income for the lac, as shown in previous studies [14]. Economic benefits range between ₹10,000 and ₹15,000 per year for households, although modest, in areas with low sources of income. Women's participation in the postharvest process also highlights a similar aspect of this existence [15]. This follows the national conclusion that NTFP will create jobs for women working in Indian forest belts [16].

- Nevertheless, many systematic issues limit the scalability and stability of lac culture.
- Infection due to pests and climate uncertainty affects cultural reliability. Market intermediaries reduce farmers' profits from a lac of direct access to the market.
- Limited training and technical knowledge hinder resource performance and optimization.
- Low institutional links with co-operatives or SHGs result in delayed payments and lower motivation for scientific practice.

On the country, households that were members of groups or co-operatives had relatively high incomes, improved prices, and a more regulated production cycle. This indicates that exposure to institutional measures and training at the community level is important for improving the socio-economic efficiency of lac cultures. Generally, Kusum Lac production is socially economical, but the possibility is not fully used due to infrastructure, institutional, and related issues. They can be overcome using specially designed state plans, increasing potential and market integration, and significantly increasing income security and environmental conservation among forest communities. Chhattisgarh is a large producer of Indian lac. About 4,000 MT lac are produced each year, and the lac is a small, important forest product. Jagadalapur, Kanker, Mahasamund, Gariaband,

Korea, Sarguja and Kabeerdham Lac Zone in Chhattisgarh. Lac collection and lac handling are the main sources of income and livelihoods for several communities in Chhattisgarh. The lac is surrounded in trees such as Kusum, Palas, Ber and is used for medicine, food preservation, the production of varnish, polish and decoration purposes. Lac dyes are used in India and surrounding areas for ancient wooden finishers, cosmetic skin, wool, and silk. Labustres products produced at Chhattisgarh include coloring gaps such as Seed lac Button lac, Shellac, Bleached lac, Dew axed Shellac Lac dye, Aleuritic Acid etc. [1,17]. Lac Agriculture is a subsidized income source for rural and forest residents of Chhattisgarh. The government focuses on increasing lac production and increasing farmers' income through lac growth [1].

Conclusion

This study determines that the lac culture of the Kusum trees has great socio-economic value in the tribal and rural masses of the Gariaband district, particularly the masses and rural areas of Chhura, Gariaband, and Mainpur. As a key non-timber forest product (NTFP), Lac is a seasonal but important source of income. It fills the economic gap during non-seasonal periods, especially for remote farmers and landless tribal families. They use the usual method of mainly involvement in the culture of the lac, but receive an average seasonal income of ₹3,500-6,000, with certain manufacturers of faraway Peter receiving even higher incomes. This process is included when women actively participate in all steps, such as collection, treatment, marketing, and more. This contributes to the general expansion of rural rights and capabilities and gender equality. However, this study uncovered some of the important limitations, including inadequate access to pests, brood lac quality, access to various market prices, dependence on intermediaries, and insufficient technical know-how. Poor training, poor institutional support, and minimal exposure to scientific practice limit profitability and profitability.

Generally, lac production becomes a stable and environmentally friendly option of existence as collaborative training, market relief, and forest value chain development begin at the community level.

References

1. Sharma, J. K., & Sharma, S. K. (2025). Importance of minor forest produces in rural economy of Chhattisgarh. *International Journal of Commerce and Management Studies (IJCAMS)*, 10(1), 61–63. ISSN 2456-3684.
2. CGMFPFED, Chhattisgarh State Minor Forest Produce (Trading and Development) Co-operative Federation Limited.
<https://www.CGMFPFED.org>;
https://www.CGMFPFED.org/new/msp_scheme.php
3. Sarkar, P. K.; Bishnoi, S. K. and Shinde, R. (2017). Under-exploited Fruits of the Forests: Eastern Indian Plateau is a Potential Hub. In: Dutta, A. K. and Mondal, B. (Eds.), *Fruits for Livelihood: Production Technology and Management Practices Published by Agrobios (India), Jodhpur, India*. pp. 261-278.
4. Sarkar, P. K., Bishnoi, S. K., Shinde, R., & Das, B. (2017). Prevalent agroforestry systems of Jharkhand state of India: A livelihood option. *Rashtriya Krishi*, 12(1), 87-89.
5. Sarkar, P. K., Das, B., & Bhatt, B. P. (2017). Bakain (*Melia azedarach* L.): a promising agroforestry species for improving livelihood to farmers of Eastern plateau and hill region of India. *The Bioscan*, 12(2), 1095-1100.
6. Sarkar, P. K., Sinha, A., Das, B., Dhakar, M. K., Shinde, R., Chakrabarti, A., ...&Bhatt, B. P. (2022). Kusum (*SchleicheraOleosa* (Lour.) Oken): A

- potential multipurpose tree species, it's future perspective and the way forward. *Acta Ecologica Sinica*, 42(6), 565-571.
7. Jaiswal, A. K., Kumar, K. K., & Pal, G. (2006). Lac host trees in ranchi district (jharkhand). *Journal of Non-Timber Forest Products*, 13(1), 47-50.
 8. Singh, J. P., Jaiswal, A. K., & Monobrullah, M. (2014). New record of insect pests attacking *Schleichera Oleosa* : a commercial host for culturing lac insect, *Kerria lacca* (Kerr) from India. *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences*, 84(4), 909-915.
 9. Guleria, H., & Vaidya, M. (2015). Anatomical studies of *Schleichera Oleosa* (Lour.) Oken. *World Journal of Pharmaceutical Research*, 4(12), 1178-88.
 10. Patil, R. S. (2018). Performance of Lac Cultivation on Kusum (*Schleichera Oleosa*) Tree in Non Traditional Areas of Karnataka State. *Journal of Krishi Vigyan*, 7(special), 172-174.
 11. Sharma, K. K., Jaiswal, A. K., & Kumar, K. K. (2006). Role of lac culture in biodiversity conservation: issues at stake and conservation strategy. *Current Science*, 894-898.
 12. Bhagat, M. L., & Mishra, Y. D. (2002). Abiotic factors affecting lac productivity. *Recent advances in lac culture*, 64-68.
 13. Sharma, K. K. (2016). Lac insect-host plant interaction: Implications on quantity and quality of lac. *Beneficial insect farming: Benefits and livelihood generation*, 104-119.
 14. Seal, A. (2024). *Lac in Bastar: From natural collection to cultivation*. Sahapedia. <https://www.sahapedia.org/lac-bastar-natural-collection-cultivation>

15. Alliancebioiversityciat.org, (2024),
<https://alliancebioiversityciat.org/stories/important-look-gender-dimensions-post-harvest-food-loss-waste>
16. Tandon, V. Getting Gender Right in NTFP Management.<https://www.ignfa.gov.in/document/biodiversity-cell-ntfp-related-issues2.pdf>
17. Chandel AS, Yadav DK, Jhariya MK (2017).Economically and Traditionally Important Non-Timber Forest Products of Saraguja Division. *Bulletin of Environment, Pharmacology and Life Sciences* Vol. 6 Issue 5, pp. 32-39.