

CHAPTER 1

**MAHUA MADHUCA LONGIFOLIA (J.KONIG) J.F.MACBR. AS A
SOURCE OF INCOME: A SOCIO-ECONOMIC STUDY IN THE
GARIABAND REGION, CHHATTISGARH**

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Abstract

Mahua (*Madhuca longifolia*), which is not a product of wooden Product (NTFPs), is a major source of rural and tribal communities in Indian forest regions. This study documented the socio-economic role of Mahua in the Gariaband district of Chhattisgarh in five major blocks: Fingeshwar, Chhura, Gariaband, Mainpur, and Deobhog. Tribal communities dominate the area and rely heavily on forest products to earn a livelihood and income. Mahua seeds and flowers are collected seasonally and used to make food, oils, traditional drugs, and local beer preparations. Field surveys, Interviews and group discussions were conducted to collect primary data, while secondary data were collected from the Co-operative and Forestry departments. The analysis shows that Mahua contributes significantly

in terms of income generation during certain seasons, especially for land workers and women. Mahua's collection and marketing contribute to household spending, child training, and food availability. However, the industry faces a variety of issues, including market reliance, lack of storage, price instability, and low support to add value. This study stipulates that stable practices in the fields of management, market relations, and political intervention are necessary to increase the economic value of Mahua and to increase the socio-economic level of local forest communities.

Keywords: *Mahua, Non-Timber Forest Products, Socio-economic study, Tribal livelihood.*

Introduction

Chhattisgarh has 44% of the forest cover on its land, making it a definitive natural richness. Chhattisgarh Forest is very rich in minor forest products [1-2]. Mahua *Madhuca longifolia* (J.Konig) J.F.Macbr., long folia is a versatile type of Indian tree that lives in the dry leaf forest, India and plays an important role in the socio-economic life of tribes. NTFPs are considered important to maintain rural presence. Fighting rural poverty, maintaining biodiversity, promoting rural economic development [3-4]. Approximately 80% of the developmental population is used in NTFPs (Non-timber forest products) to meet some of their health and nutritional needs [3, 5]. Mahua is a large, deciduous tree that is widespread in arid, tropical, and subtropical climatic conditions. *Madhuka indica*, distributed in Andhra Pradesh, Gujarat, Madhya Pradesh, Odisha, Chhattisgarh, Jharkhand, Bihar, Uttar Pradesh [6]. Nutritional, medicinal, and cultural values traditionally respected values have gained importance as a major source of seasonal income, particularly in forest areas such as the Gariaband in Chhattisgarh. This tree gives flowers used as food and local liqueurs, seeds used to extract oils, and even leaves and bark, which are used in traditional medicine. Its

economic value becomes a rescue circle for the poor and forestry communities. The Gariaband area in East Chhattisgarh is made up of blocks such as Fingeshwar, Chhura, Gariaband, Mainpur, and Deobhog, dominating high levels of biodiversity and tribal populations. When it falls to the ground in March and April, it collects and dries a bulging, creamy flower crown. They are rich in sugar and contain a large amount of vitamins and calcium. The value of these non-Timber forest products (NTFPs) has been added to rural support for the existence and exclusion of rural poverty and is well recognized in Chhattisgarh [3]. In these regions, the Mahua Collection is not only a traditional activity but also an important economic activity that maintains its presence, particularly during lean agriculture. Women are an important factor in the collection, dryness, and sale of Mahua flowers and seeds. NTFPs is a variety of products obtained from forests, except for wood that serves a variety of purposes, such as financial support, cultural clarification, environmental conservation, and drug improvement [7-8]. What is important is that Mahua's economy is primarily informal with limited institutional support, conditioned on the exploitation of intermediary, market forces, and institutional negligence. This study seeks to assess the contribution of Mahua to income and socio-economic improvements in the Gariaband field, and list the opportunities and issues for building this forest economy.



Figure 1.1 Collection and Sun-Drying of Mahua (*Madhuca longifolia*) Flowers in Gariaband, Chhattisgarh

Materials and methods

Study Area: Fieldwork is carried out in the Gariaband district east of Chhattisgarh with five blocks in Fingeshwar, Chhura, Mainpur, Deobhog, and Gariaband blocks. These blocks are laid with deciduous leaf forests known for the richness of

Mahua trees. The area is primarily inhabited by tribal groups such as Gond, Kamar, and Halba, and is traditionally based on forest products for survival. Mahua finds glory in the seasonal economy and traditional lifestyles of these groups, providing income thanks to flower, oil production, and traditional fermentation.

Data Collection: This study includes data collection from primary and secondary sources, as well as fieldwork assistance. Fieldwork has been identified by its economic importance and methods that help maintain the normal use of Mahua and seed Flowers, as well as animated means for the presence of village forests.

Gender dynamics of harvest, harvest season, per capita income, and Mahua collections were recorded throughout the household. The market value and status of the production of Mahua flowers and seeds in Chhattisgarh in recent years is intended to decipher valid trends, price prices, and trade traffic inspections. Furthermore, the propagation and density of Mahua trees has been studied in samples from forested and decomposition areas, determining the permanent potential of harvest.

Result

This study has produced incredible results regarding the socio-economic importance of Mahua in selected blocks of the Gariaband district. The results are explained in more detail below:

- 1. Household Dependency on Mahua:** Of a survey of 500⁺ households, approximately 82% mentioned Mahua collections as a seasonal but important source of income. This dependency was more common among landless families, especially in the Chhura, Mainpur, Gariaband and Deobhog blocks.
- 2. Contribution to income:** On average, the family earned ₹4,000-12,000 per sale of Mahua flowers and seeds (March to May). This could reach 30-40% of household income, especially for women-led households.

3 Gender Participation: Approximately 70% of the costs and treatments were decided on how to implement them for children and women. Women played an important role in the drying, storage, and sales of Mahua flowers.

4. Collection Volume: The Mahua home collection varied from 40 to 100 kg per season, depending on the tree availability and work resources. The largest collection was observed in the villages of Chhura, Mainpur, Gariaband and Deobhog blocks.

5 Access to markets and prices: Most respondents sold Mahua weekly at village markets or to local customers. The price of the Mahua flowers averaged between ₹33 to ₹45 per kg, depending on the freshness, dry quality, and proximity of the main road. Cooperative purchases and lack of price volatility were key issues.

6. Constraints Identified: Key challenges included:

- Absence of storage and drying facilities
- Low bargaining power due to middlemen
- Inadequate support for value addition (e.g., Mahua oil, sweets)
- Forest regulations restricting collection in protected areas.

These conclusions convincingly show that while Mahua is a profitable source of seasonal income in forestry communities, its full economic potential is flawed due to its infrastructure, institutions, and policy-related space.

Table 1.1 Chhattisgarh State Minor Forest Produce 2024-25 [2].

Chhattisgarh state minor forest produce 2024-25 (CGMFPPED)						
Name of Forest produce	Category	Category (MSP/ SP)	Collector rate (Rs.P er kg)	Collector period		Criteria
				From	To	

Mahua flower (dry)	Non-Timber Forest Produce (NTFP)	MSP	33	15-Mar	15-May	Only dry Mahua flowers without foreign material (like soil, leaves, stones, etc.)
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Discussion

Mahua flowers are one of the main small forest products of Chhattisgarh. Approximately 5 lakh quintals of Mahua flowers are produced every year. Mahua flowers are important sources of income and food for several tribal groups in Chhattisgarh, especially during non-agriculture seasons. The Flowers plays an important role in Mahua flowers collections, treatments, and marketing. The collection and sales of Mahua Flowers have contributed greatly to the state's rural economy. Mahua Flowers have several uses, including food, oil, alcoholic beverages, and drug use. Mahua flowers are also known in the national and international markets, and Mahua flowers are purchased by private UK organizations for use in the manufacture of a wide range of products [6]. This study highlights the socio-economic importance of Mahua as an important resource of existence among tribes and rural residents of the Gariaband region. For the five training blocks of Fingeshwar, Chhura, Gariaband, Mainpur, and Deobhog, Mahua is not only a forest product, but also a part of rural life,

economy, and culture. Seasonal income in Mahua is an important factor that contributes to household expenses, particularly during the agricultural season. Women's active participation in the collection and treatment of Mahua improves women's financial contributions and decisions to households. This is consistent with existing research into the genre forest economy in central India. However, despite all the economic value of Mahua, the lack of organized marketing networks and infrastructure after being fascinated by losses limits the award. The management of intermediaries and the absence of organized cooperatives lead to price exploitation and reduce the real profits the collector generates. Climate change, deforestation, and restrictive forest policies also limit the stability of their Mahua-based existence. The study also shows a low level of awareness and access to methods of adding value, such as Mahua oil, candies, and fermented items. With institutional support, the processor perspective based on construction possibilities, storage, minimum support price (MSP), and SHG - Mahua can be converted from product to level with a stable source of sustainable rural revenue. The report highlights the need for integrated political measures, local entrepreneurship, and forest microeconomic models to reach the full socio-economic potential of Gariaband district Mahua.

Health benefits of *madhuca*

Madhuca has subsequent medical services:

1. **Bronchitis:** *Madhuca* flowers are used to solve the problem of chronic bronchitis. Flowers are also used to treat cough [9].
2. **Orchitis (Testis inflammation):** *Madhuca* leaves are boiled and used to promote Orchitis [9].
3. **Rheumatism:** The bark boils in water and is converted into a decoction used domestically to promote rheumatism. The oil

extracted from the seeds can also be rubbed on the affected area [9].

4. **Diabetes:** Cortical soups are effective in treating diabetes [9].
5. **Piles:** The oil received from the seeds is laxative, dealing with constipation in the long term, and dealing with pilots [9].
6. **Eczema:** *Madhuca* leaves are effective in treating eczema. The leaves are applied with sesame oil pressed in the fire and used in affected areas to obtain relief from eczema [9].
7. **Gums:** The gums are applied like the throat with 4 mL of liquid extract made from bark mixed with 300 mL of water to relieve sore and bleeding gums [9].
8. **Tonsillitis:** The above drugs are also used to treat chronic and acute tonsillitis and pharyngitis [9].
9. **Burns:** Used to heal burns and burns in combination with stomping oil. To relieve itching, bark fabric is applied locally [9].
10. **Breastfeeding:** *Madhuca* flowers are used to improve milk production in breastfed mothers. The seeds also have the same quality [9].

Common uses of mahua (*Madhuca longifolia*)

1. **Fodder:** Leaves, flowers, and fruits are illuminated and consumed by goats and sheep. Seed cakes are also used to feed cows (after appropriate detoxification/processing) [9].
2. **Timber:** The reddish brown core is strong, strong, durable, extremely heavy (reported c. 929 kg/m³), finishing with a thin finish. Typical applications include home construction, naves and felloes, door/window frames [9].

3. **Erosion control:** Propagating shallow root systems helps to maintain the surface bed together and minimize erosion in open areas [9].
4. **Shade & Shelter (and Land Reclamation):** Extended Crowns help provide a good shadow for agricultural workers and livestock. This tree is also planted on treated and degraded land, such as solid soil to contribute to the rehabilitation of the site [9].
5. **Soil–Microbe Associations:** Such associations can increase the efficiency of the acquisition of nutrients (even nitrogen) in the soil [9].
6. **Ornamental / Avenue Tree:** Occasionally planted along roadsides, campuses, and village avenues for its form, shade, and seasonal flowers [9].
7. **Boundary / Barrier / Support Tree:** Used for landing planting. Trees mark the limits of property, act as windbreaks and are used as support for certain climbers [9].
8. **Agroforestry / Intercropping:** *Madhuca longifolia* can be integrated into agricultural systems with compatible agricultural or edible crops under a properly located and controlled awning [9].

Conclusion

This study concludes that Mahua (*Madhuca longifolia*) plays an important role in the socio-economic structure of tribal and rural societies in the Gariaband district. Of the five blocks—Fingeshwar, Chhura, Gariaband, Mainpur, and Deobhog-Mahua - This is a seasonal but important income source. The sale and harvest of Mahua flowers and seeds generate additional income that helps ensure food security, child education, and family stability. While there are great possibilities, a Mahua-based economy is prevented by storage, market access, price volatility, and value-added. Traditional knowledge and practices associated with Mahua

collections emphasize that structured collections, infrastructure, and cooperative aid systems can be used to release the entire economic potential of Mahua.

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