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**Dr. Pankaj Kumar**  
Assistant Professor,  
Department of Geography,  
VABL Government College,  
Pathariya, District Mungeli,  
Chhattisgarh, India

**Dr. Chandramauli**  
Associate Professor,  
Department of Geography,  
Indira Gandhi National Tribal  
University (IGNTU),  
Amarkantak, Madhya  
Pradesh, India

**Corresponding Author:**  
**Dr. Pankaj Kumar**  
Assistant Professor,  
Department of Geography,  
VABL Government College,  
Pathariya, District Mungeli,  
Chhattisgarh, India

## The socio-economic and cultural significance of Mahua flowers for tribal communities in Korba district, Chhattisgarh

**Pankaj Kumar and Chandramauli**

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### Abstract

Forests are the primary source of numerous products essential for survival, as well as a significant contributor to the economic development of human societies in various regions of the world. Several forest products have a significant impact on the socio-economic condition of various human societies within a nation. The Mahua flower is popularly utilized by the local rural people of Korba District as a source of economic income and is preserved by many for use as a food source. Mahua is a highly prized Minor Forest Product of Chhattisgarh. Rich in antioxidants and essential fatty acids, Mahua flower oil is a sought-after component in skincare and haircare formulations. The dried Mahua flower is among the most essential products of the tropical Mahua tree from Chhattisgarh. The Mahua flower encompasses various attributes, including texture, aroma, volatile compounds, flavor, total soluble solids, titratable acidity, and color, which give rise to a diverse array of both fermented and non-fermented food products. In the Korba district, various populations, particularly tribal communities and rural individuals living below the poverty line, utilize Mahua flowers for diverse purposes. The people's economy and livelihoods depend on the Mahua flower in different tribal groups of the district. However, in this paper, we discuss the forest area of Korba District, the lives of people living below the poverty line and the significance and utilization of the Mahua flower in the Korba District.

**Keywords:** Minor forest product, Mahua flower, cultural significance, Mahua economy

### Introductions

The Mahua tree (*Madhuca longifolia*) is revered as a "tree of life" by many tribal communities in central and eastern India, providing a source of sustenance, livelihood, and spiritual connection. The annual collection of its seeds, leaves and sweet, pale-yellow flowers is a cornerstone of tribal life, with profound socio-economic and cultural significance. Mahua collection is socio-economically and culturally vital for tribal communities in Korba, Chhattisgarh, providing a crucial source of income, food and livelihood security, especially during the lean agricultural season. Culturally, the Mahua tree is revered, with its flowers used in rituals and for a traditional beverage that is central to social gatherings, marriages, and spiritual offerings. Women are central to this process, playing a key role in collection and processing, which empowers them both economically and culturally.

### Socio-Economic Significance

The South Asian native tropical tree, known as Mahua, is mainly grown or collected in villages and forests for its edible blooms and oil seeds. The districts of Sarguja Division (Koriya, Mandragarh-Chirmiri-Bharatpur, Balrampur, Jashpur, and Surajpur), Bilaspur Division (Korba, Gaurella-Pendra-Marwahi, Mungeli, Raigarh), and Bastar Division (Sukma, Bijapur, Narayanpur, North Bastar Kanker, South Bastar Dantewada, and Kondagaon) of Chhattisgarh are frequently known as the Mahua Collection District.

The sale of Mahua products, including dried flowers, oil and liquor, provides essential seasonal income, enabling families to purchase necessities such as food and pay for school fees. Mahua flowers and seeds are a source of nutrition. The flowers can be eaten directly, dried, or used to make sweets, directly contributing to the community's food security.

Collection is a significant seasonal occupation, particularly for women, which helps ensure local employment and economic activity in rural areas.

Mahua (*Madhuca longifolia*) is a species that holds significant ecological and economic value for the residents of Korba. As a result, this species faces considerable human demand for the harvesting of its flowers and seeds, which may subsequently alter its vegetation structure (Sahoo, 2020) [7]. Mahua, known as the Indian Butter Tree (*Madhuca longifolia*), is a significant tree with crucial socio-economic importance, found throughout the tropical and subtropical regions of the Indian subcontinent. This deciduous tree flourishes widely in dry tropical and subtropical climates. It is quite resilient and grows well in rocky, gravelly, saline, and sodic soils, even within soil pockets located between crevices of barren rocks (Singh, 1998) [8].

The article by Dwivedi, Priyadarshini, and Induar (2022) [11] reviews the use of the Mahua flower (*Madhucalongifolia*) in the food industry, highlighting its nutritional value and applications. The review notes that Mahua is rich in sugar, protein, and minerals, and is used to make products like biscuits, cakes, and jams, as well as being fermented for liquor. It also highlights the flower's antioxidant and antimicrobial properties, as well as its role as a food source and a source of income for tribal communities.

Additionally, these flowers are used in producing distilled liquor, portable spirits, vinegar, and animal feed (Bisht, Vinita, 2018) [9]. Mahua is a versatile forest tree species that fulfills the three main needs: food, fodder, and fuel (Patel, M., 2011) [6]. Mahua thrives in tropical climates and shows remarkable drought resistance. However, this tree cannot survive waterlogged soils. It is quite sturdy and can even grow in small patches of soil found in cracks of barren rocks. Trees also manage to grow in degraded, rocky terrains, including those affected by salt. Nonetheless, for optimal growth and productivity, it prefers well-drained, deep loam soil (Bisht, Vinita, 2018) [9].

The Mahua tree (*Madhuca longifolia*) is vital to the livelihoods and culture of tribes across central India. Traditionally used for food, liquor, oil, and medicine, Mahua is now gaining recognition as a potential driver of indigenous entrepreneurship. Economically, Mahua is a key "Non-Timber Forest Produce" (NTFP) that boosts household incomes, especially during non-harvest months (Saxena *et al.*, 1995) [17]. Flowers are fermented into liquor; seeds produce oil used for cooking and skincare. Behera (2017) [16] highlights the recent shift from household-level use to commercial products, such as packaged liquor, soaps, and sweets, which are "expanding income opportunities while raising concerns around ownership and sustainability. Think tanks, such as Vasundhara (2021) [18], advocate for reforms that recognize Mahua's cultural roots, promote decentralized governance, and enable value addition through sustainable harvesting and community ownership. Mahua thus represents a complex interface of tradition, economy, and policy, requiring inclusive frameworks that balance cultural preservation with economic empowerment.

The Mahua tree plays a vital role in the local economy of tribal communities in Chhattisgarh, providing a range of foods, medicines, and other products. It is typically gathered from the wild and is commonly grown in tropical regions. A common misconception about the Mahua tree is that it is solely used to produce liquor and is detrimental to health,

but this is only the case after the fermentation process has taken place. Mahua is a consumable ingredient used as a sweetening agent in the preparation of various traditional recipes, including halwa, kheer, puri and burfi. The Chhattisgarh herbals also produced Mahua achar and Mahua cookies, which the Chhattisgarh herbals department markets.

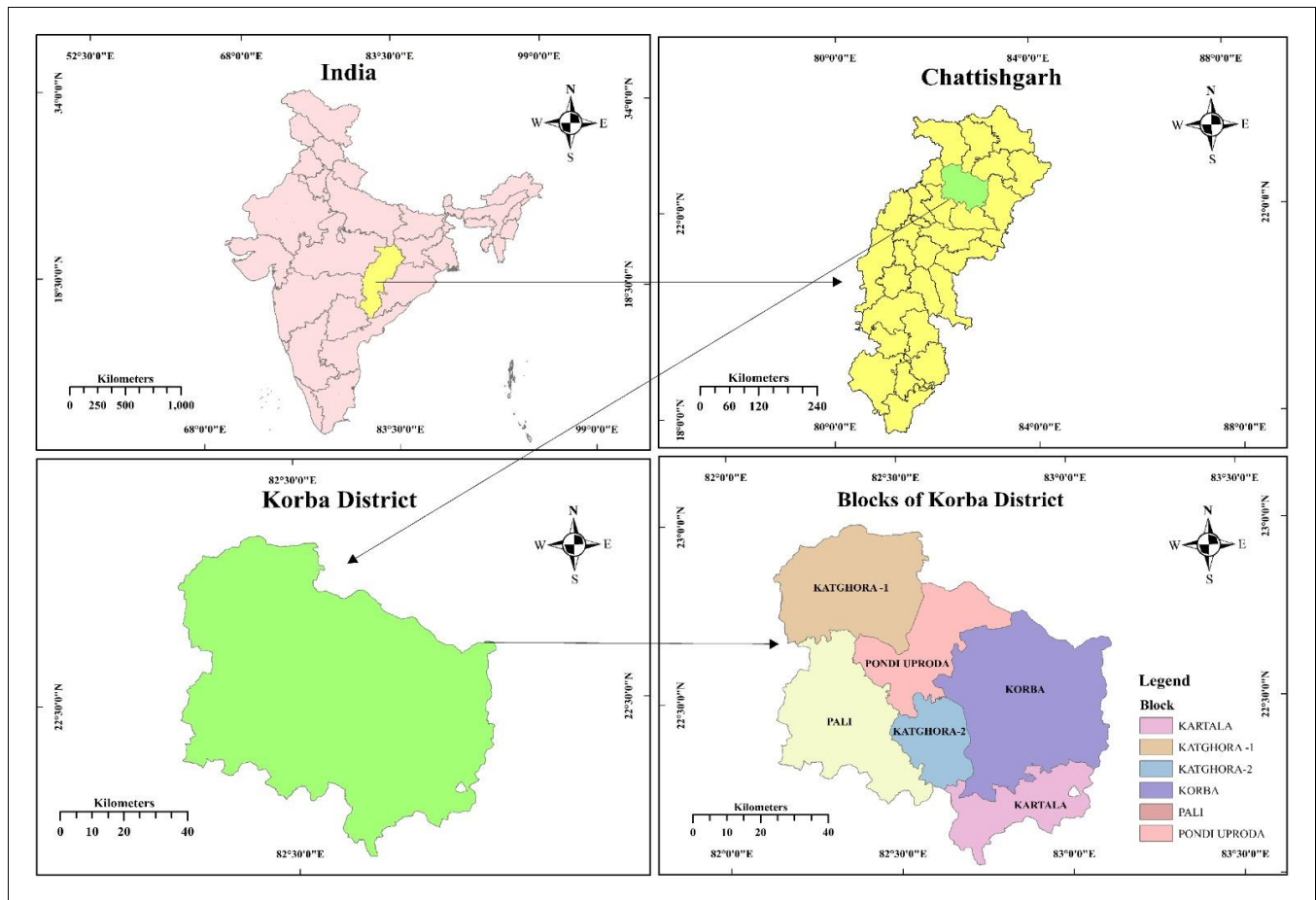


Source: <https://www.chhattisgarhherbal.com>

### Study Area

The Korba district was officially declared a full revenue district on May 25, 1998. Its district headquarters is located in Korba city, which sits at the confluence of the Hasdo and Ahiran rivers. Korba is known as the power capital of Chhattisgarh. This district falls under the Bilaspur division. The district headquarters is about 200 km from the state capital, Raipur. Located in northern Chhattisgarh, Korba borders the districts of Manendragarh, Chirimiri, Bharatpur, Surguja, Bilaspur, Gaurella, Pendra, Marwahi, Raigarh, Janjgir, and Sakti, among others. The district covers a total area of 7,14,544 hectares, including 2,83,497 hectares of forest land (<https://korba.gov.in>).





Source- Survey of India

**Fig 1.1:** Location Map of Study Area

### Objective of the Study

The study aims to assess the importance of Mahua flower collection to the economic and livelihood development of tribal communities in the Korba district.

### Methodology

The present study is based on secondary data collected from various sources, including government officials, websites, magazines, journals, district statistical yearbooks, and reports.

### Results and Discussion

#### Forest Cover in Korba District

The forests play a major role in the social and economic structure of Korba. This area is rich in forest resources. The district has two forest divisions: Korba and Katghora. Korba district is situated in the northern hilly part of the state. Most of the land that forms the plateau of the Maikal ranges in the Satpura hills comprises both high and low open areas. The largest stretch of this open land is near Pasan. The prominent hills in the area include Gurudwari Hill, Janta Hill, Matin, and Dhajak Hill (<https://korba.gov.in>).

**Table 1.1:** Major Forest Types in Korba District, Chhattisgarh

Forest Type	Forest	Area (sq km)
Reserved Forest	1. Katghora Sub-Division	3.37
Protected Forest	1. Korba 2. Balco 3. Lemru 4. Katghora Sub-Division	2890.35
Un-reserved Forest	1. Kartala 2. Kudmura 3. Katghora Sub-Division	4193.91
Total		7087.27

Source: <https://korba.gov.in/en/departments/forest/> District Statistical Yearbook 2023-24

An area designated as a forest that does not qualify as a reserved or protected forest. The ownership status of these forests varies from one state to another. The region is declared under the India Forest Act or the respective State Forest Acts, which provide some level of protection. In Protected Forests, all activities are permitted unless

explicitly restricted in the region designated under the India Forest Act or the State Forest Acts that offer complete protection. In Reserved Forests, all actions are prohibited unless authorized (<https://www.fsi.nic.in/sfr2001>). The reserved forest is very limited in the Korba district, meaning the protected and unreserved forests are available for local

people to collect Mahua flowers. Observations show that Mahua is the predominant tree in the area, serving as a seasonal economic resource that causes people to fall below the poverty line after the flower season. In Table 1.1, it is evident that the most significant areas of unreserved forest are in the Kartala and Kudmura forest ranges, as well as all the forest ranges of the Katghora sub-division, totaling 4193.91 km<sup>2</sup>. Additionally, 2890.35 km<sup>2</sup> of protected forest exists in the district. The forest area has been identified in the district for estimating the coverage of Mahua trees.

**Table 1.2:** Mahua Collection in Korba District, Chhattisgarh

Year	Production (in quintals)	Value (in lakh Rupees)
2020-21	5833.97	175.01
2021-22	57.81	1.73
2022-23	112.06	1.79

**Source:** District Statistical Yearbook 2021-22/2022-23/2023-24/ office of Forest circle, Korba/ Director Management, District Forest cooperative union, Katghora 2022

In the table, we see that in 2020-21, during the COVID-19 pandemic, the collection of Mahua flowers was highest in the district because many workers lost their jobs at that time. Forest product collection is a main occupation for rural people. According to the District Statistical Yearbook 2021, the Korba Forest Circle collected 3,911.75 quintals of Mahua flowers, and the Katghora Forest Circle collected 1,922.22 quintals of Mahua flowers, which are collectively shown in the table, totaling 5,833.97 quintals from the Korba district. However, in 2021-22, the production of Mahua flowers was at its lowest. The reason for this is that the Katghora forest division data was not included in the source for the years 2021-22 and 2022-23. However, we estimate that the Mahua collection reaches its peak annually. As a result, the production of Mahua flowers appears lower than in 2020-21. The Mahua collection data are official, since local people sell them. Mahua is mainly consumed locally in the form of alcohol, biscuits, and other traditional foods. Due to their daily household needs, women from the community sell their collection to local shopkeepers and

mediators, so exact data is not available from the cooperative society. Based on field observations, the following summary can be made: during the rainy season, the collected Mahua flowers are used to buy daily necessities and stationery for children. We can conclude that the Mahua flower collection provides significant economic support for individuals living below the poverty line. In response to their needs, the government has increased the support price. The maximum support price for Mahua flowers is currently set at 4,470 rupees per quintal by the Chhattisgarh government in 2025 ([www.cgmfpfed.org](http://www.cgmfpfed.org)).

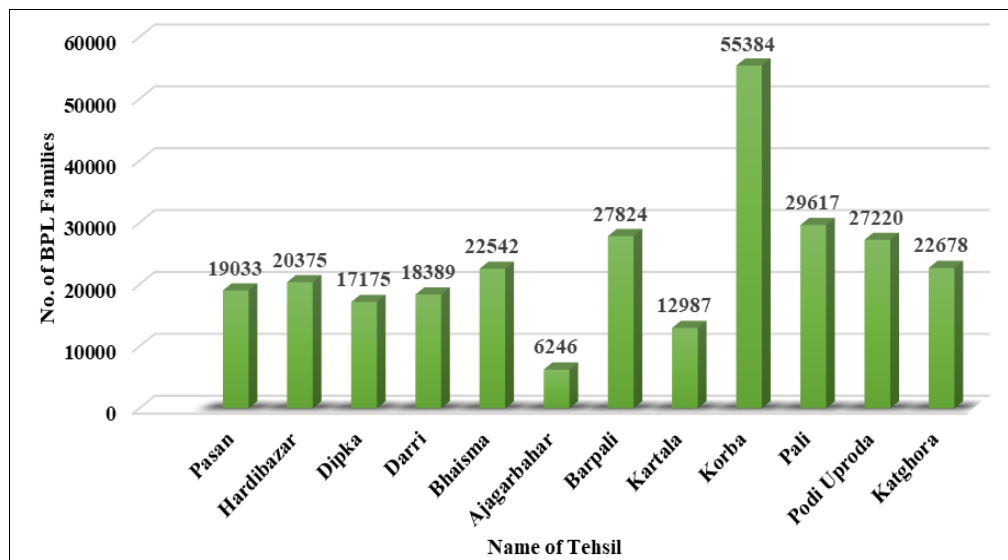
Table 1.3 and Figure 1.2 display the number of families below the poverty line in Korba District. The Korba district, specifically Korba tehsil, has a large number of families (55,384) living below the poverty line. In the figure, Ajarbahaar tehsil is a newly established tehsil with 6246 families living below the poverty line. The reason for the lowest number of families below the poverty line is the smaller number of households in this particular tehsil.

The table 1.3 and figure 1.2 show the total number of families living below the poverty line. The purpose of presenting this data is to provide a general overview of the individuals who are directly or indirectly involved in collecting various types of forest products. If we exclude the (77,302) urban BPL families (DSB, 2022-23), the number of rural BPL families is 2,02,168. These are estimated households where at least one person is involved in collecting various types of forest products on a seasonal basis. This is an estimated figure intended to provide an idea of the number of people who collect forest products, either directly or indirectly. Korba District is home of Gond, Kanwar, Pahari Korva, Birhore, Oraon, Binjhawar, and Dhanuhas tribes. In the table 1.4 the data for 2001 and 2011 are actual, whereas the remaining ones are projections. In 2001 and 2011 census the tribal population of the district was 419889 and 493559 respectively. The tribal population is continuously increase in district and the larger number of tribal population are engaged to collection of forest product and Mahua flower are one them. Previously we discuss the importance of Mahua flower in there livelihood.

**Table 1.3:** Category-wise number of BPL families in Korba District, Chhattisgarh

No.	Tehsil	Antyodaya Families	Antyodaya (Ekal, Free)	Prathmikta	Nishaktata	Total Families
1.	Pasan	3882	87	15,033	31	19,033
2.	Hardibazar	3194	97	17,040	44	20,375
3.	Dipka	2948	104	14,009	114	17,175
4.	Darri	2992	132	15,205	60	18,389
5.	Bhaisma	4141	405	17,923	73	22,542
6.	Ajarbahaar	2328	50	3837	31	6,246
7.	Barpali	6256	443	20,893	232	27,824
8.	Kartala	3606	159	9108	114	12,987
9.	Korba	9252	386	45,567	179	55,384
10.	Pali	5672	175	23,737	33	29,617
11.	Podi Uproda	5525	95	21,503	97	27,220
12.	Katghora	4060	111	18,326	181	22,678
Korba District		53,856	2,244	2,22,181	1189	2,79,470

**Source:** Controller of Food Supply/ District Food Officer/ DSB, 2022-23



Source: Controller of Food Supply/ District Food Officer/ DSB, 2022-23

Fig 1.2: Number of BPL Families in Korba District, Chhattisgarh

Table 1.4: Total Scheduled Tribe Population in Korba District, Chhattisgarh

Year	Schedule Tribe Population
2001	419889
2011	493559
2024	589330
2025	596697

Source: Population Census 2001, 2011 & Simple Average Growth Rate Method, /https://descg.gov.in

Table 1.5: Utilization of Mahua Flower

Mahua Flower Product	Uses/ Properties
Sugar Syrup	Fermentation of the Mahua flower utilizes its sweet attribute. It can be used for various purposes, such as the chocolate-making industry.
Fermented Product	Alcohol, acetone, lactic acid, ethanol, brandy, and various other fermented substances have been created from dried Mahua.
Unprocessed consumption of Mahua	A small amount of flowers is eaten raw, prepared in cooking, or fried.
Bakery and confectionery	Sweets, cookies, and pastries
Puree and sauce	Some people are made Puree and sauce.
Meditional Use	An emulsifier is used in several pharmaceutical industries. Massage oil and Anti-Itch ointment can help treat diarrhea. Mahua ghee aids in alleviating piles.

Source: (Shrivastava *et al.*, 1970; Madhumita and Naik, 2010)/ (Yadav *et al.*, 2009)/ (Wealth of India, 1962)/ (Vinita Bisht, 2018) <sup>[1, 3]</sup>

In 2020, the Indian government recognized the significance of Mahua liquor, acknowledging its deep-rooted cultural heritage. The government introduced Mahua liquor as the "Mahua Nutri-beverage" through the Ministry of Tribal Welfare. This beverage was packaged and offered in six fruit-infused flavors, priced at ₹700 for a 750 ml bottle (Kuthadi, 2024) <sup>[5]</sup>. People in rural areas often lack sufficient financial resources for various livelihood options, which is why they rely heavily on or partly on forest resources that are easily accessible, affordable, and renewable. Korba District is home to many tribes, primarily engaged in collecting Mahua flowers. The role of the Mahua is vital in the beliefs and faith of many tribes, who worship the Mahua tree.

### Cultural Significance

The Mahua tree is deeply embedded in the lives and livelihoods of tribal communities in central India, owing to its cultural importance and economic value. These communities possess a profound, generational understanding of the Mahua tree's ecology and management, which has been passed down through traditional practices

and rituals. Many enterprises focused on Mahua collection offer a unique opportunity to combine traditional ecological knowledge with sustainable rural development. The Mahua tree, which is vital to central Indian tribal communities, provides food, medicine, oil, and "liquor," all harvested sustainably without cultivation. Its resilience in semi-arid, degraded soils makes it ideal for low-cost, climate-resilient livelihoods in marginalized areas.

The Mahua flower is integral to tribal rituals, festivals, and social gatherings. A traditional, mildly alcoholic drink made from Mahua flowers is a key component of many spiritual offerings and social hospitality, often presented to deities and community members to please forest and nature spirits. The process of collecting, drying, and brewing Mahua empowers tribal women, giving them economic power and cultural authority in their communities.

The Mahua tree (*Madhuca longifolia*) occupies a vital space in the cultural, spiritual, and economic life of tribal communities across central and eastern India. Its leaves, milks, flowers, seeds, woods and bark are essential to traditional diets, medicines, and local economies. Culturally, Mahua is tied to tribal cosmology and seasonal rituals. As

Mishra (2012) <sup>[15]</sup> notes, Mahua flowers are used in ceremonies and are seen as offerings to ancestral spirits, symbolizing both sustenance and sacred continuity. Customary norms often protect the tree, emphasizing its ecological and cultural importance.

Various songs are sung by tribals while traveling to and from their homes, as well as during the collection, drying, and processing of Mahua flowers. These songs are deeply tied to their spiritual practices. Different songs show that after worshipping the flowers, they collect the Mahua flowers. Bhanu Sridharan explains in his article that tribal children enjoy chewing the sweet juice of the Mahua flower. They tattoo their bodies using the juice from their flowers and the leftover ashes of half-burnt leaves. Some of them boil Mahua juice and sun-dried rice in the field and then enjoy them.

After extracting oil, the leftover material, known as cake, is used as a natural fertilizer. This manure does not harm the soil or its fertility. It supports the growth of paddy and helps prevent insect outbreaks. The tribes also use it in their nearby streams to catch fish. The fish become intoxicated by the mixture of water and Mahua seed cakes, making them easy to catch without a net. Taking these fish does not harm their body. The tribes collect dry Mahua leaves to boil paddy and rice, and also prepare curry. The dry branches and trunk of the tree are used for fuel. Mahua wood burns well as fuel. After analyzing the significance of the Mahua tree, it can be said that it is the lifeline of the central tribal communities in India. Bhanu Sridharan states in his article that there is a saying among the tribes that "Heaven is where there is a Mahua tree and hell is where there is no Mahua tree to make wine."

### Conclusion

The Mahua flower is mainly known for its use in making liquor; however, there is a need to educate people about its other benefits. The Mahua tree is often overlooked for its medicinal properties. Mahua blossoms offer a variety of nutritious benefits and can be consumed by the public. In today's world of processed snacks and drinks, products made from Mahua can be not only healthy but also a great source of income. This study concludes that the Korba district forest has significant potential for producing Mahua flowers. It can be estimated that more than half of rural families are likely engaged in some capacity in Mahua flower collection, considering its benefits. Based on research regarding the importance of Mahua collection for tribal communities in Korba, Chhattisgarh, it is clear that Mahua is a vital part of tribal life, supporting their economic, nutritional, and cultural well-being. While collection provides essential income and sustenance, tribal communities face systemic challenges, emphasizing the need for policies that protect their rights, improve market access, and support value addition while respecting traditional practices. There is a need for the government to promote and add value to it.

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