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INTERNATIONAL
FORUM
FOR ENVIRONMENT,
SUSTAINABILITY
& TECHNOLOGY

FACTSHEET

ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS IN TENDU LEAF PLUCKING

An evidence-based analysis for Chhattisgarh

TENDU TRADE: ALL IN THE ORGANISATIONAL STRUCTURE?



Nationalisation of the trade in tendu leaves in Madhya Pradesh (of which Chhattisgarh was then a part of) took place in 1964.

Chhattisgarh is the second largest collector of tendu leaves in India.

Procurement and sale of tendu leaves is carried out by the forest department through a three-tier cooperative system.

The three-tier system consists of Primary Cooperative Societies (PCS) at the village cluster level, District Forest Produce Cooperative Unions at the district level and the Chhattisgarh State Minor Forest Produce (Trading & Development) Cooperative Federation Limited at the state level.

WHAT IS THE DEPENDENCY ON TENDU LEAF COLLECTION?

Around
1.3 million
tendu leaf
collectors in
Chhattisgarh

Top districts in
terms of number
of collectors are
**Kanke, Balrampur,
Korba and
Katghora**

Provides a source of income for
the rural poor for around 11 days
a year during the lean summer
months

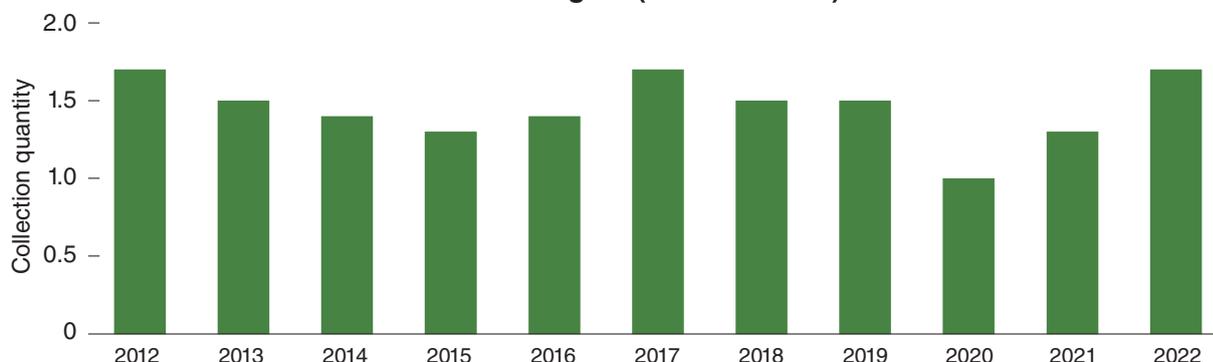
Generated 14 million mandays
of work in Chhattisgarh
in 2022



WHAT IS THE REVENUE GENERATED FROM TENDU LEAF?

The collection of tendu leaves has fluctuated between 2012 and 2022. While there was a noticeable dip in 2020, the production has witnessed an increase in 2022 to the 2012 level.

Trends in tendu leaf collection in Chhattisgarh (in million SBs)

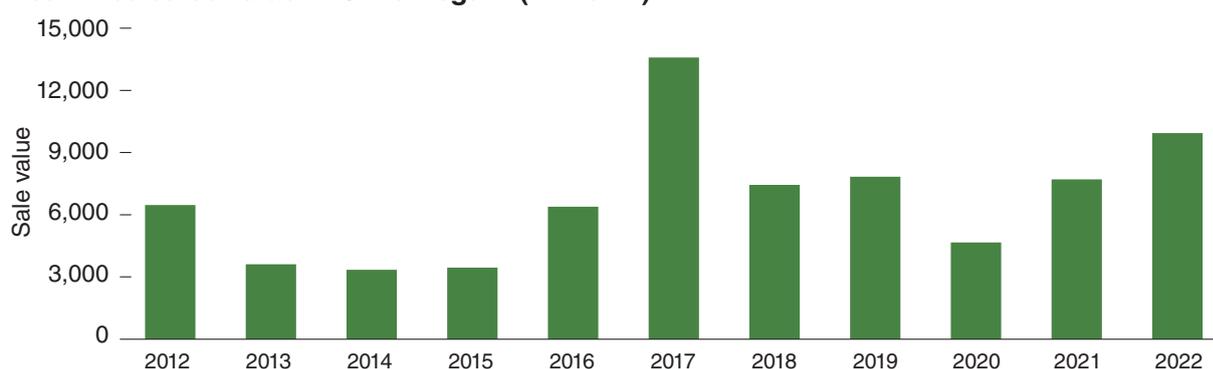


Note: 1 SB=50,000 leaves

Source: Forest Department, Government of Chhattisgarh

Revenue from sales has largely increased in Chhattisgarh between the years 2012 and 2022, with a phenomenal increase in revenue in the year 2017.

Year-wise sales value in Chhattisgarh (million ₹)

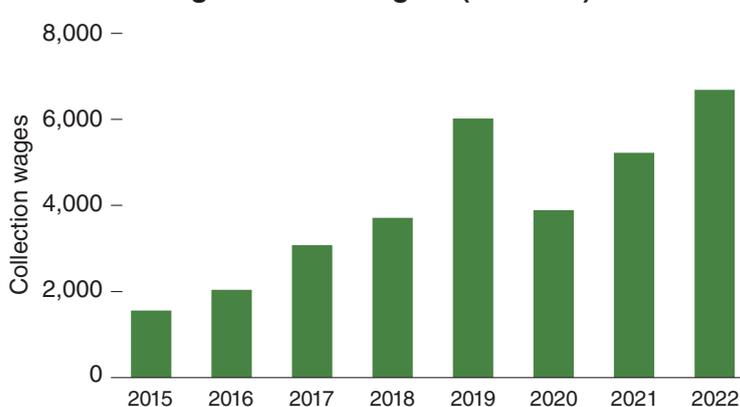


Source: Forest Department, Government of Chhattisgarh

WHAT IS THE INCOME GENERATED FROM TENDU LEAF COLLECTION?

- The payment of wages to the collectors is done by the PCS.
- The disbursement of wages shows an upward trend in Chhattisgarh.
- The collection rate for each standard bag is ₹4,000.
- In 2022, each collector received on an average, ₹5,100 as wage.
- Collectors also receive bonus in addition to the collection wage.

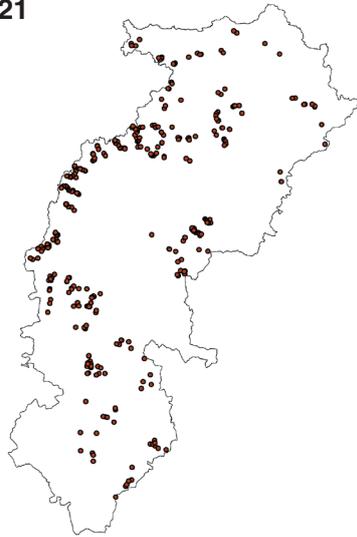
Collection wages in Chhattisgarh (million ₹)



Source: Forest Department, Government of Chhattisgarh

IS BUSH-CUTTING AN EFFECTIVE ALTERNATIVE TO THE USE OF FIRE?

Tendu-linked forest fires in Chhattisgarh during 2011-21



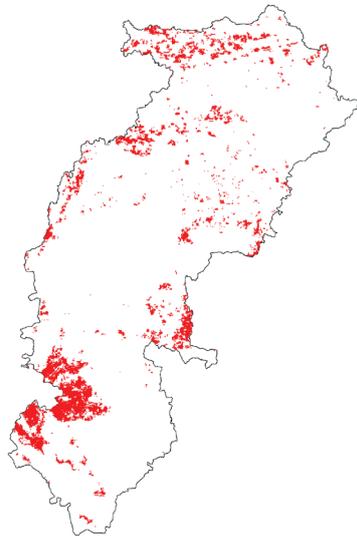
Source: iFOREST analysis of MODIS data

209 Forest Fire Points in and around tendu sample points (a total of 411) during 2011-21

Strong positive correlation between tendu and forest fires. Correlation coefficient of over 0.7 for most years (2011-21)

Bush-cutting is touted as an alternative to the traditional use of fire in tendu leaf collection. As is believed to be the case in the use of fires for tendu leaf collection, bush-cutting enhances the quality of leaf production and facilitates collection. While bush-cutting is promoted as an alternative, the high incidence of forest fires in tendu-producing areas in Chhattisgarh calls into question the effectiveness of these practices in the reduction of forest fires.

Burnt area with respect to potential tendu distribution for 2011-21



Source: iFOREST analysis

- Total area burnt in forest fires during 2011-21 is estimated to be 15,217.5 sq km which is almost the size of Nagaland.
- Total area burnt in fires induced in tendu leaf collection is about 6,120 sq km, approximately 40% of the state's total burnt area, in 2011-21.

Cause for concern:

- Tendu is prevalent across 22,904 sq km or approximately 38% of the state's forest land.
- Extensive promotion of tendu trees adversely impacts biodiversity, soil, water, growth of trees, and ecosystem services as a whole.

Estimated CO ₂ emissions attributed to tendu-linked forest fires in 2021		
7,635 mt January	168,542 mt February	4,936,856 mt March
1,280,537 mt April	24,556 mt May	9,155 mt November

6.4 million mt of CO₂ is estimated to have been emitted due to tendu-related fires in Chhattisgarh in 2021. This is equivalent to the annual emissions by 2.6 million cars.

STUDY OBJECTIVES & APPROACH

To assess the scale of dependence upon tendu leaf collection and its contribution to the socio-economic well-being of the dependents

To outline the possible alternatives to tendu to enhance livelihood options for the collecting communities.

Focus on Chhattisgarh:

Contributes to around 20% of the total collection in India. Also, the 3rd largest contributor towards forest fires in 2021 (SNPP-VIIRS data) as per the Forest Survey of India.

Use of secondary and primary research.

Three-stage primary research:

Socio-economic household surveys at village level, focus group discussions (FGD) and stakeholder interviews

Household surveys:

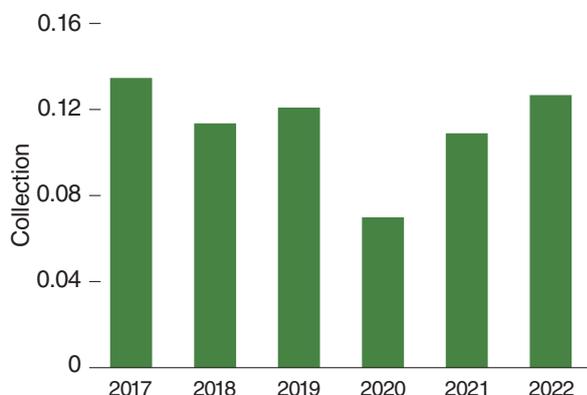
- 381 tendu-collecting households in 7 villages
- 20 non-tendu collecting households in 2 villages

FGDs:

- 1 FGD each in 9 villages

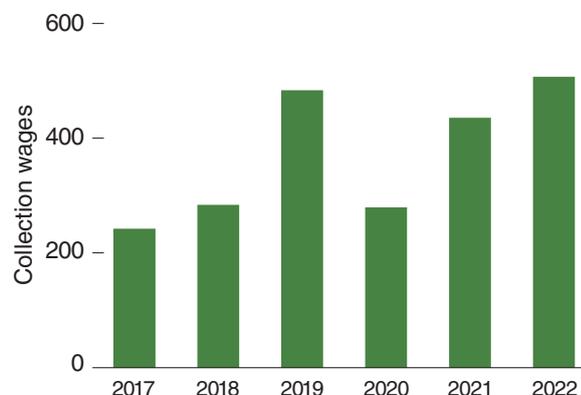
WHAT IS THE DEPENDENCE UPON TENDU COLLECTION IN KORBA?

Collection of tendu leaves (million SBs)



Source: Korba and Katghora Forest Departments

Collection wages disbursed (million ₹)



Source: Korba and Katghora Forest Departments

As at the state level, there have been no massive fluctuations in the collection of tendu leaves in Korba, barring the year 2020, where the dip in collection can be attributed to COVID-19.

104,638
tendu collectors
in Korba

Wages have witnessed a steady increase from 2017 to 2022 which corresponds to an increase in the collection rate from ₹1,800 per standard bag in 2017 to ₹4,000 per standard bag in 2022.

GROUND REALITY: SURVEY FINDINGS FROM KORBA DISTRICT

Has tendu collection paid off as a source of income for the collectors?

Tendu collectors from marginalised sections of society

- Low annual income
- Fare poorly on the socio-economic front as per the Uday Pareekh socio-economic scale (SES)

Dependence on tendu due to lack of other sources of income

- Largely dependent upon agriculture
- Around 11% landless, while the rest have an average landholding of 2.4 acres
- Dependence upon NTFPs and MNREGA for supplementary income

Provides a decent income but not commensurate with the investment and revenue generation

- Earn ₹5,600 as wage on an average with 6 days of engagement
- 48% of respondents feel that the collection rate is inadequate

Non-tendu Non-Timber Forest Products (NTFPs) hold potential

- Huge dependence upon mahua and char collection
- Collectors show interest in the promotion of mahua, char, lac and tamarind.

HOW DO THE SURVEYED TENDU COLLECTORS IN KORBA DISTRICT FARE SOCIO-ECONOMICALLY?

Tendu Collectors

Income ₹5,000-₹10,000 per month

'Middle Scale Class' as per the Uday Pareekh SES scale; score of 27.4

11.8% landless

Average landholding of 2.4 acres

High dependence upon cultivation

High dependence upon NTFPs

Non-tendu Collectors

Income ₹5,000-₹10,000 per month

'Middle Scale Class' as per the Uday Pareekh SES scale; score of 30.9

None are landless

Average landholding of 2 acres

High dependence upon cultivation

Minimal dependence upon NTFPs

WHICH ARE THE NON-TENDU NTFPS THAT ARE PERCEIVED AS HAVING POTENTIAL BY THE SURVEYED TENDU COLLECTORS?

Major NTFPs collected are mahua and char. Around 92% of the households collect mahua. Char and dori are also collected.

73% of those surveyed felt that mahua should be promoted while 69% felt that char could be promoted.

86% of the respondents mentioned the need for more NTFP plantations.

The need to increase the rates of various NTFPs was also mentioned.

Collection and sale details of non-tendu NTFPs by the collectors

Name of NTFP	Number of collectors	Annual collection (kg)	Total annual income (₹)	Average annual income (₹)
Mahua	352	74,782	2,337,950	6,641.90
Char	129	2,686	301,000	2,333.30
Dori	56	1,467	48,190	860.5
Mango	14	1,001	26,350	1,882.10
Lac	5	180	43,000	8,600.00

CONCLUSIONS

Economic dependence:

- Tendu collectors are from the poorest sections in the poorest districts of Chhattisgarh. Out of the ten 'Aspirational Districts', seven are engaged in tendu collection.
- There is a high dependence upon tendu due to a lack of alternative income-generating sources.
- In 2022, the (surveyed) collectors received an average of ₹5,600 as wage.
- There are several alternatives to tendu, such as mahua and lac, which offer better returns.

Environmental concerns with tendu plucking:

- There is a strong correlation between forest fires and tendu prevalence in Chhattisgarh.
- The total burnt area due to forest fires in tendu occurring areas is estimated to be 6,120 sq km for the 2011-21 period.
- Tendu-related fires emitted 6.4 million mt of CO₂ in Chhattisgarh in 2021.

WAY FORWARD: ALTERNATIVE LIVELIHOODS

Four major pathways in the provision of alternative livelihoods

1 Promotion of non-tendu NTFP-based livelihoods

- Non-tendu NTFPs widely collected and offer better returns in some cases
- Additional policies, robust organisational structures, resources, market linkages etc. needed

2 Tapping into agricultural schemes for the promotion of the agricultural sector

- Investing in and boosting agricultural productivity important to help move away from tendu collection.
- Convergence of state-and central-level schemes for agriculture and allied sectors needed.

3 Leveraging livelihood schemes and other available funds to promote employment generation

- Provision of alternative employment opportunities especially during lean agricultural months
- Convergence of schemes/programmes/funds necessary. Example: MNREGA and CAMPA

4 Harnessing the potential of Payment for Ecosystem Services and carbon markets

- Generating income for tendu-dependent communities
- Promoting ecological conservation

Assessment of key NTFPs as tendu alternatives in Chhattisgarh

NTFP	Key challenges and gaps	Policy support	Recommendations
Harra	Lack of value addition and low income support to cultivators	Covered under the Mechanism for Marketing of Minor Forest Produce (MFP) through Minimum Support Price (MSP) and Development of Value Chain for MFP scheme	<ul style="list-style-type: none"> • Higher MSP rates for the produce • Provision of processing facilities
Tassar	Lack of knowledge on disease and pest management; insufficient training facilities, uncertainty of remunerative returns	'Raw material bank' established in Raigarh district to ensure economic support to tassar silk growers; Kosa Resham Yojana being implemented to promote forest-based industry	<ul style="list-style-type: none"> • Imparting training to people • Establishment of processing centers • Promotion of market linkages
Mahua seeds	Poor research and development for value addition of the produce; lack of developed market infrastructure and storage facilities; lack of suitable post-harvest processing techniques	Covered under the Mechanism for Marketing of MFP through MSP and Development of Value Chain for MFP scheme	<ul style="list-style-type: none"> • Higher MSP rates for the produce • R&D on the uses of mahua seeds and seed oil • Development of storage and processing facilities • Development of market linkages for the produce
Bamboo	Degradation of bamboo forests and lack of production of bamboo; untapped potential as construction material	Regulation and management of the produce through the national bamboo mission initiated by the central government	<ul style="list-style-type: none"> • Increasing productivity of and restoring bamboo forests • Setting up of nurseries for production of bamboo • Promoting markets
Sal	Declining produce due to erratic rain; inadequate procurement practices leading to stagnating collection prices	Covered under the Mechanism for Marketing of MFP through MSP and Development of Value Chain for MFP scheme	<ul style="list-style-type: none"> • Development of cooperatives/ federations for better procurement and better prices • Provision of storage and processing facilities • Development of market linkages for the produce • Higher MSP for the produce

Source: iFOREST assessment

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