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School of Public Health
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National Report on the Lifecycle Approach to Beedi Trade in India



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School of Public Health, All India Institute of Medical Sciences (AIIMS) Jodhpur

All India Institute of Medical Sciences, Jodhpur is a central government healthcare and research institute of national importance, founded under the Pradhan Mantri Swasthya Suraksha Yojna (PMSSY) by the Ministry of Health & Family Welfare, Government of India. AIIMS Jodhpur was established with the objective of overcoming the regional disparity in healthcare in the country.

School of Public Health (SPH) at AIIMS Jodhpur was founded in 2017 to deliver excellence in public health education, research, and training along with the best level of care to the community. Many initiatives in the field of tobacco control have been conducted by the institution, such as sensitization of urban slums, hospital OPD and schools against the adverse consequences of tobacco use. Tobacco control is also a key aspect of the School Health Promotion Program, which has been a flagship initiative at SPH AIIMS Jodhpur since 2019. In September 2020, the faculty were identified as Nodal Persons for the scientific group of the National Tobacco Testing Laboratory (NTTL) under the Ministry of Health and Family Welfare, Government of India.

The International Union against Tuberculosis and Lung Disease (The Union)

The Union was established in 1920 with the goal of delivering innovative expertise and advanced preventative care to mitigate the suffering caused on by lung and TB infections. By addressing health issues in low- and middle-income people, it seeks to achieve this objective. The Union is committed to scientific research with a focus on TB, HIV, lung health, tobacco control, and non-communicable diseases. Its mission is to generate, disseminate, and implement knowledge to policy and practice.

Since 2006, The Union has worked in South-East Asia, supporting organisations engaged in tobacco control initiatives with financial grants and technical assistance through the Bloomberg Initiative to Reduce Tobacco Use (BI) Grants Program. Tobacco and non-communicable disease (NCD) control initiatives are established and strengthened by the Union South-East Asia Office in close collaboration with ministries of health, NGOs, and academic institutions.

Through collaborations and programmes that reach out to more than 500 districts and more than 750 million people nationwide, The Union in India supports the National Tobacco Control Programme and other activities in more than 30 states and union territories.

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We also acknowledge technical and financial support by International Union against Tuberculosis and Lung Disease (The Union) and Vital Strategies under Bloomberg Initiative to Reduce Tobacco Use.



We are pleased to present to you this report on the lifecycle approach to Beedi trade in India. The report aims to provide a comprehensive understanding of the Beedi industry in India and its various stakeholders, including raw material cultivators, Beedi workers, manufacturers and consumers.

Beedi is a type of traditional hand-rolled cigarette. Often considered as a cottage industry, the harms and hazards posed cannot be overlooked, including the extremely low wages for workers, child labour, poor working conditions, and adverse health effects on workers as well as consumers. Moreover, the environmental impact of Beedi production and consumption is also a cause for concern.

The report takes into consideration a holistic view of the Beedi trade, examining its entire lifecycle, from production to consumption. It also explores the social and economic dimensions and case incidents reported in various states of the country by those involved in Beedi manufacturing.

I would like to express my gratitude to the team of researchers and experts who contributed to this report. Their hard work and dedication have made this report possible. I hope that this report will serve as a valuable resource for policymakers, tobacco control enthusiasts and other stakeholders.

Dr. Madhabananda Kar

Executive Director

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The second most commonly used tobacco product in India is Beedi, with a consumer base of more than 72 million people. The nicotine concentration in beedis is higher than in cigarettes and beedi smoking poses a risk factor for many diseases respiratory diseases, tuberculosis, chronic bronchitis along with many types of cancers which include cancer of the larynx, lungs, pharynx, oesophagus and mouth. The beedi industry not only imposes burden on the smokers but it also a health threat to the beedi workers particularly women and children who work from home and suffer from various ailments such as eye problems, burning sensation in the throat, abdominal pains, postural problems, asthma, tuberculosis, chronic cough, menstrual disturbances, anaemia, body aches, dizziness etc. from constant exposure to tobacco dust. With the popularity of beedi in India, it is important to highlight the massive impact it imposes on our nation. This National Report on the Lifecycle Approach to Beedi Trade in India is an excellent document which provides a comprehensive overview of the beedi industry both at state and national level in India.

It is hoped that all the stakeholders in the region and beyond are able to make the best use of the evidences and come up with better strategies to implement the existing policies and develop future policies to strengthen effective tobacco control.

Dr. Shalini Singh

Director

ICMR - National Institute of Cancer Prevention and Research (NICPR)

Noida



I am delighted to present this significant report that sheds light on the extensive land and human resources exploited by the beedi industry.

While the production of beedi has been a longstanding practice in India, the beedi industry has grown into a massive enterprise, generating significant profits for a select few at the expense of many others. The industry has been linked to many human rights and environmental issues, including poor labour conditions, exploitation of workers, and environmental degradation. This report brings to light the harsh realities of the beedi industry and endeavours to decipher the supply chain of the industry in particular beedi rolling. As the report reveals, beedi workers are often paid meagre wages and forced to work in hazardous conditions. This report recommends that immediate action be taken to improve working conditions and ensure fair wages for these workers.

This report draws on data from a range of literature, including government and civil society reports, academic papers, and quantitative estimations, and highlights the various stages of beedi production from cultivation to consumption. It is a significant contribution to the ongoing discourse on the beedi industry in India. I am hopeful that it will serve as a wake-up call for policymakers, industry leaders, and consumers alike.

Dr Gan Quan

Director, Tobacco Control Department

The International Union against Tuberculosis and Lung Diseases



I am delighted to introduce this report on the Indian beedi industry, which provides a comprehensive data source on various stages of the lifecycle of beedis trade, labour and wages, and the associated legal violations. Beed industry is a significant component of the overall tobacco problem in India, yet it defends the entire tobacco industry by constantly pointing out that beedi manufacturing is employing millions of people; notwithstanding the fact that the living and working conditions of the beedi workers are dismal. Although the industry has been under scrutiny for its practices with regards to labour rights and violations of Indian laws, evidence generation has not been easy as it needs a review of hundreds of documents.

This report aims to provide single source and detailed analysis of the beedi industry in India, considering the entire lifecycle of beedi production, from the cultivation of tobacco to the consumption through a thorough review of various government, tobacco industry and civil society

reports as well as triangulation from published scholarly articles.

I am sure this report will serve as a valuable resource for policymakers, researchers, and other stakeholders interested in promoting policies towards the regulation of beedi industry in favour of tobacco control.

Dr. Prakash C. Gupta

Director

Healis



This report has been prepared as a part of the project to map the beedi trade lifecycle and quantify the health and economic burden due to beedi consumption in the country, as a part of Bloomberg Initiative to Reduce Tobacco Use grant at School of Public Health, All India Institute of Medical Sciences, Jodhpur, managed by The International Union Against Tuberculosis and Lung Diseases.

The report was compiled through a long list of government reports from agricultural, labour, finance and forest departments, reports from various civil society organizations, and even taking evidence from the tobacco industry documents. Further, the data was triangulated through peer reviewed national and international articles and through consultations with the government officials, researchers and the academia. While there is highly fragmented data on beedi trade lifecycle, this report was formed with the view of providing a single source repository where all the aspects of the beedi manufacturing process could be explored, namely, registered and unregistered proportions, raw material area and production figures, number of labour employed, the actual wages they receive and the violations and health issues they face. Another rationale for publishing this report is to counter the various narratives of tobacco industry and present empirical evidence for policy formulations in favour of tobacco control initiatives.

We believe, this report will serve the purpose of acting as a baseline for indicators and guide for interventions towards regulation of the beedi industry for the policy makers, civil enforcement agencies and researchers throughout the country.

Dr Pankaj Bhardwaj

Academic Head, School of Public Health

All India Institute of Medical Sciences, Jodhpur

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Executive summary

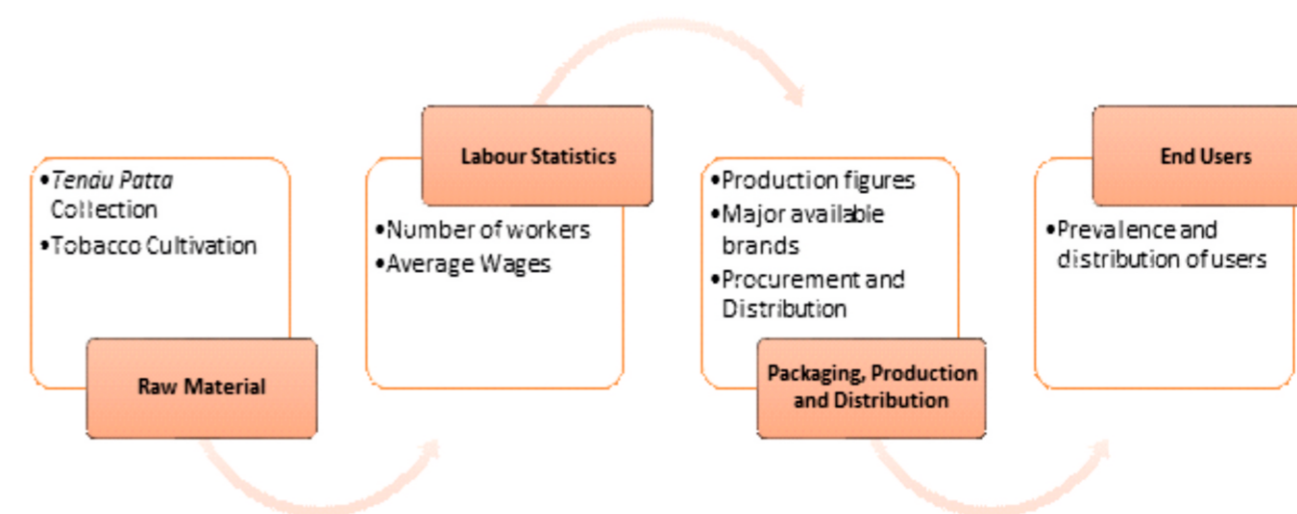
With a prevalence of 28.6% of tobacco consumers aged 15 years and above in the country, India constitutes the second largest market for tobacco consumption in the world. Coupled with being the second largest producers as well, the market for tobacco and related industries is enormous. The beedi industry in India is one such tobacco industry, which caters to the lowest socio-economic strata of the population with deep entrenched roots dating back to the 17th century. As a result of this, the consumption and smoking has affected the very beliefs of the masses, making it the second largest consumed tobacco product and the largest smoked tobacco product in the country, with a prevalence of 7.7%. A majority of the product being hand-made, the industry also enjoys the traditional status of a cottage industry and many regulatory and tax related benefits that comes with it.

Although, there is a large amount of literature that is currently available online, yet gathering any such data requires intensive review of government reports, peer reviewed articles, NGO documents and tobacco industry declarations. Due to such disaggregated and fragmented nature of data, the rationale behind this report is to compile the different indicators of the trade lifecycle of beedi industry into a single document that may be used by researchers and policymakers. Thus, this report provides information regarding raw material (tobacco and tendu patta collection), labour Statistics (no. of registered beedi workers and their average wages), production and distribution (major beedi brands available, registered manufacturers and exporters) and end users (beedi smokers). This report also summarizes various reported health issues and legal violations to the beedi workers especially those related to child labour, lower than the government approved wages and voids of non-providence of employment benefits such as pension and health cover from various states of India. Due to huge regional variations of the product, this report also presents a comprehensive overview at the national level and enlists case studies from 10 priority states selected considering tendu patta production, tobacco cultivation, beedi labours employed and highest beedi production. Further, wherever available, decadal trends were studied and a comparison has been provided for an understanding of relative increase or decline in production and revenue in individual states, over the years.

Lastly, this report proposes recommendations to the various involved Ministries, academic institutions and civil society organizations. Considering the report findings, the Ministry of Labour and Employment must ensure centralized minimum wages to the workers with the medical and retirement benefits, ban on child labour and propose required amendments in the Beedi and Cigar Workers (Conditions of Employment) Act, 1966. This should be accompanied with an accessible, transparent and efficient grievance redressal mechanisms. The Micro, Small and Medium Enterprise (MSME) departments can call for the action to strip the status of cottage industry and the tax and regulatory benefits the manufacturers enjoy considering the health hazards to the workers, while the Ministry of Commerce and Industry enforces stringent penalizations against illicit products and products with poorly displayed health warnings. Simultaneously, the Ministry of Skill Development and Entrepreneurship should prioritize the

vocational rehabilitation of all the workforce employed in the industry to enable gradual shift to a more productive and healthy life. The Ministry of Health and Family Welfare should recognize beedi rolling as an occupational health hazard, with prioritized campaigns amongst workers about the health hazards. It is recommended that the academia and researchers engage with the civil society organizations for operational and exploratory research in various domains such as beedi taxation, brand analysis, compliance with existing laws, vendor density prevalence and illicit trade, which are largely unexplored in the beedi industry.

Fig 1. Indicators of Supply Chain



National Overview

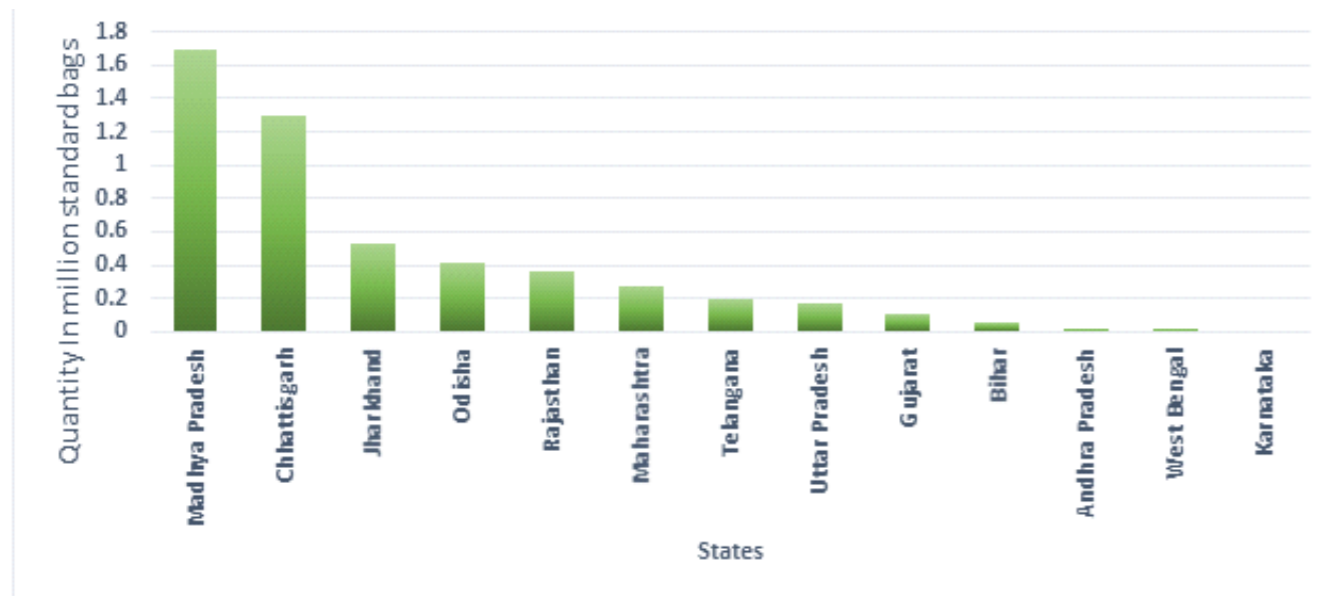
Raw Material for Beedi Production

Tendu leaves

The sale of Tendu leaves was nationalized in a phased manner between 1960s and 1970s in different states of the country with Madhya Pradesh being the first state to implement the norms under the The M.P. Tendu Patta (Vyapar Viniyaman) Adhiniyam, 1964.[1-4] Before nationalization, the entire forest tendu patta produce was auctioned. Later due to nationalization norms, many reforms were introduced over time ranging from the “purchaser – agent” system, “sale on full price” system and the “Majdur se malik” system, aiming to remove the mediators completely from the interim transactions. Different states of the country implemented the norms at different times and underwent numerous revisions to avoid the losses of revenue to the government and provide maximum benefit to labourers.[5]

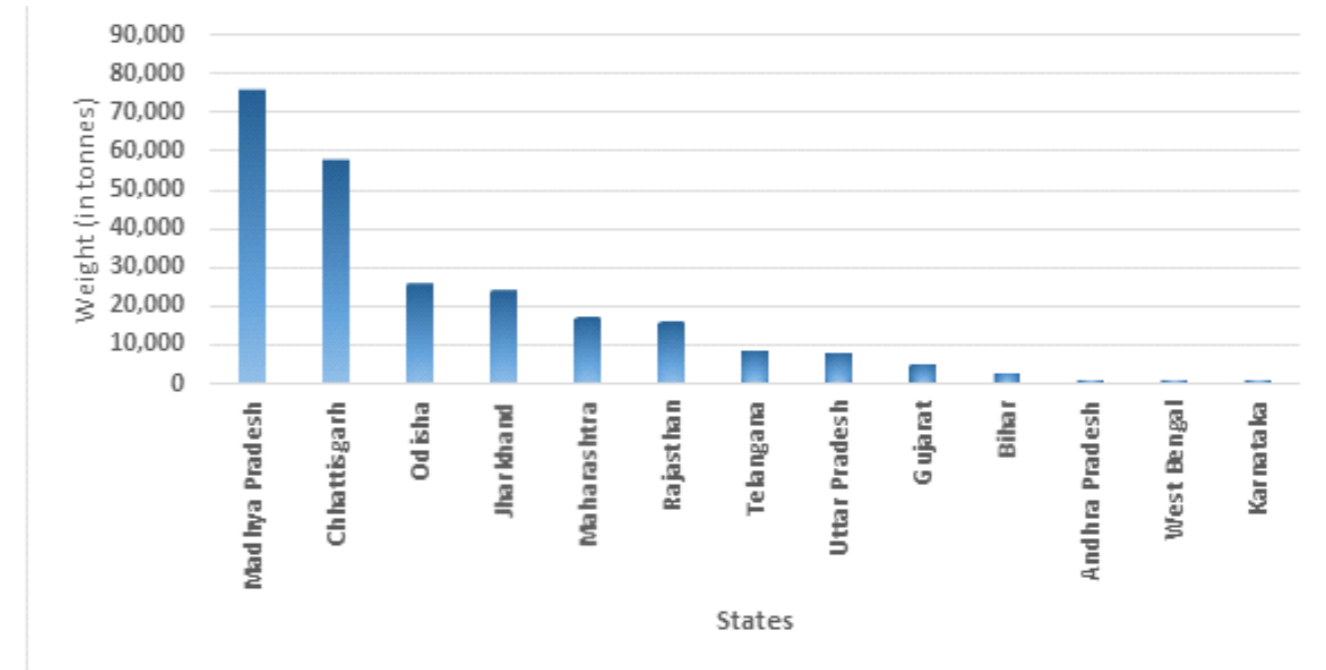
Annually, an estimated 5 million standard bags of tendu patta, with 50,000 leaves in each bag and 70,000 leaves in case of Maharashtra and Odisha are produced in India.[6,7] Forest and revenue records indicate wide variations in production and revenue generation across the states with Madhya Pradesh and Chhattisgarh alone accounting for more than 50% of the tendu patta production (Fig 1). Maximum collection in 2021 was from Madhya Pradesh (1.7 million standard bags) followed by Chhattisgarh (1.3 million standard bags).

Fig 2a. Estimated quantities of annual tendu leaf collection from various Indian States, 2021



Source: Forest fires and tendu leaf collection in India: An evidence-based analysis, iForest (2023)

Fig 2a. Estimated weight of annual tendu leaf collection from various Indian States, 2021



Source: Forest fires and tendu leaf collection in India: An evidence-based analysis, iForest (2023)

Tobacco Cultivation

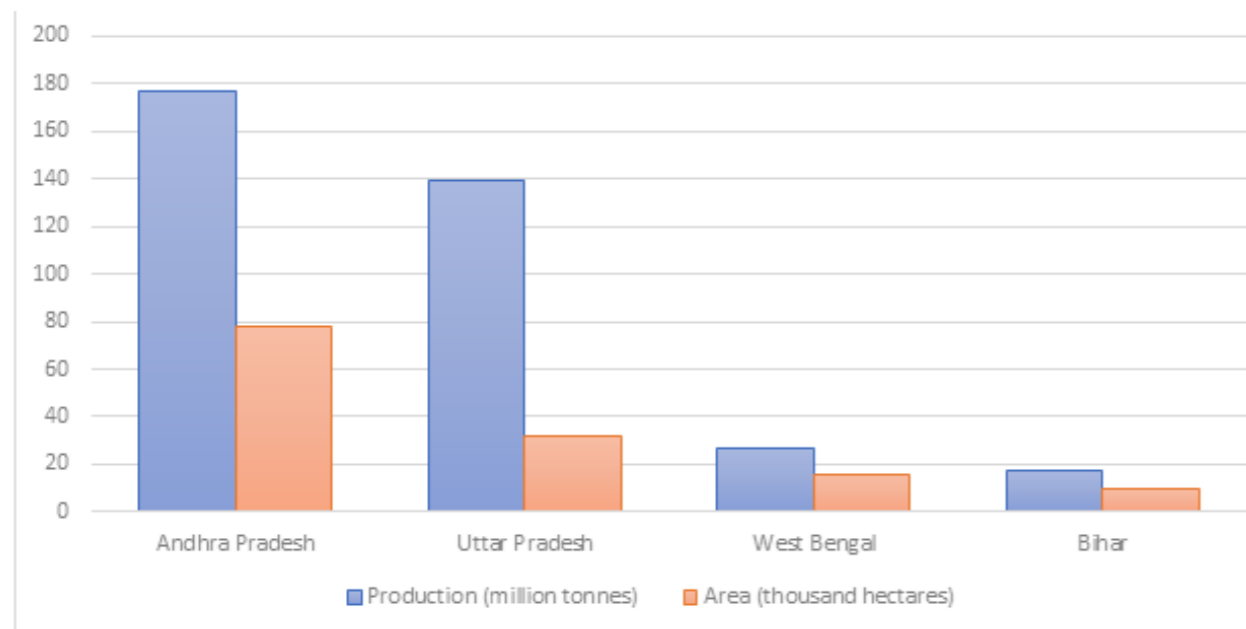
Globally, India is the second largest producer of tobacco. Tobacco cultivation covers an area 450 thousand hectares, producing over 750 thousand tonnes of tobacco annually. The major tobacco varieties cultivated include the Flue-Cured Virginia tobacco, cultivated over an area of 200 thousand hectares with production of 300 thousand tonnes, followed by Non-Flue Cured Virginia tobacco, cultivated over an area of 250 thousand hectares and production of 450 thousand tonnes.[8]

Beedi tobacco accounts for 35% of the total area under tobacco cultivation and 33% of the total cultivated tobacco. As per the production estimates of 2019-20, out of the 450 thousand hectares cultivated area under tobacco crop, and 750 thousand tonnes of total cultivated tobacco, beedi tobacco cultivation accounts for 141.5 thousand hectares of land generating 264.46 thousand tonnes of beedi tobacco in India annually.[9,10] The tobacco varieties cultivated in India for use in Beedis include the GT 4, NPN 190, Anand 119, Anand 2, Soorthy (PL 5), GT 5, GT 7, GTH1, Bhavyasree, GT 9, NBD 43, MRGTH- 1, ABT 10, Vedaganga 1, GABT-11, Nadyala Pogaku-1, NBD 209 and ABD-132. Amongst this, the states of Gujarat, Karnataka and Maharashtra and Andhra Pradesh account for more than 50% of the beedi tobacco yield with 160 thousand tonnes of Keliu 20, Anand 23, Hunkumathiri varieties cultivated annually.[11,12]

Considering the state-wise overall tobacco production in the country, Gujarat records the

maximum annual generation of 375 million tonnes of tobacco over a cultivated area of 167 thousand hectares, followed by Andhra Pradesh with 177 million tonnes over a cultivated area of 78 thousand hectares, and 119 million tonnes from Uttar Pradesh from a cultivated area of 27 thousand hectares (2016-17).

Fig 3. Trends in production and cultivation of Tobacco in Indian State, 2016-17



Source: IGNFA, Dehradun and Ministry of Agriculture (2016-17)

Labour Statistics and Wages

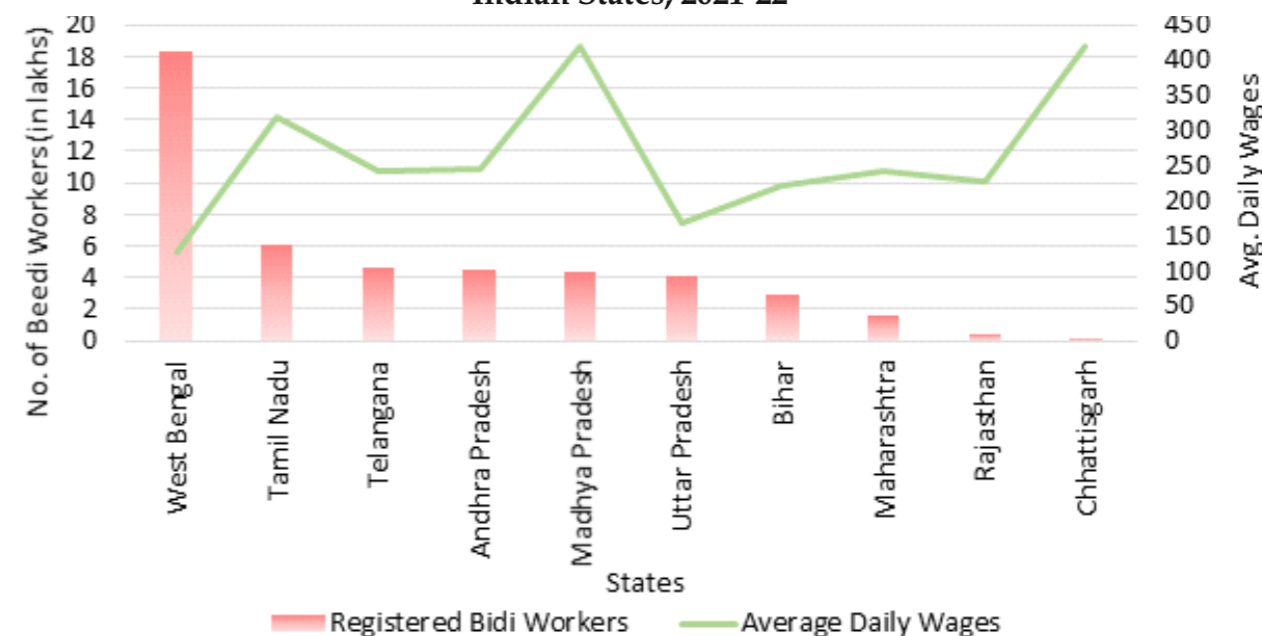
The tendu patta is first aggregated at the designated collection centers and auctioned by the state Forest Departments, while beedhi tobacco remains largely unregulated with production and marketing controlled by in the private sector. This remains in contrast to the Flue-Cured Virginia and other cigarette tobacco, which is auctioned by the Tobacco Board of India. The manufacturers acquire the raw material from different states through such bidding process which is then either delivered to clusters of beedi rollers through the middlemen and brought back after scrutiny, for packaging or is used directly in beedhi manufacturing factories for machine processing. It is important to note that the Beedi industry being primarily a cottage industry, manufacturing is predominantly home-based but the final packaging is done in factories, in contrast to cigarettes and smokeless tobacco products, where the manufacturing is primarily factory-based.

Thus, right from production and processing of raw materials, to its transportation via middlemen to clusters of beedi rolling households, collection of rolled beedi sticks and finally packaging into various brands for distribution and sale, it is evident that beedi rolling is heavily labour dependent industry. As per the Annual Report of the Ministry of Labour and

Employment and the estimates of International Labour Organisation, a total of 4,982,294 'registered' beedi workers are employed in India as of 2021-22. Although, the same number is projected to be over 10 million workers as per the All India Beedi Industry Federation to counter against regulatory and tobacco control reforms. [13]

The maximum number of registered beedi workers are reported for the year 2021-22 from West Bengal – 1.83 million, followed by 0.6 million workers in Tamil Nadu, while the least registered workers (3,893) have been reported from Chhattisgarh. The highest ratio of women beedi workers is found in Kannur (94%) and Tirunelveli (93%) districts from the states of Kerala and Tamil Nadu respectively, with the highest share of women in the total beedi workforce found in the states of Andhra Pradesh (95%), Karnataka (91%), Tamil Nadu (84%) and West Bengal (84%). Similarly, the highest number of workers live in Murshidabad (West Bengal), followed by Tirunelveli (Tamil Nadu), Malda (West Bengal), Karimnagar (Andhra Pradesh), Nizamabad (Andhra Pradesh) and Dakshina Kannada (Karnataka). The enormous employment figures, which are often stated by the beedi industry to counter the regulatory reforms, provide a more grievous image are associated with the daily wages of beedi industry workers also varies widely across states and labour employed, ranging from lowest daily wages of INR 72 for children to INR 143 for women and INR 196 for men. The lowest wages were found in the states of Uttar Pradesh and West Bengal, while maximum wages were observed in Madhya Pradesh and Chhattisgarh.[13]

Fig 4. Trends in labour statistics and daily wages of beedi workers in Indian States, 2021-22



Source: CEIC, MOL&E, 2021-22

Production and Distribution

Due to a large fraction of unregistered Beedi manufacturers, the estimates of annual Beedi sticks production vary widely, ranging from 81.5 billion sticks (Ministry of Commerce and Industry) to 550 million sticks (All India Beedi Industry Federation), which forms only a small proportion of the 395 billion sticks being consumed annually as per the GATS-II survey.[14-16]

Due to the paucity of evidence and wide variability, the total number of beedi sticks produced in the country were estimated using the “back-of-the-envelop-method” from the quantity of tendu leaves auctioned, beedi tobacco cultivated and number of beedi rollers involved in the process.[17] Considering 10% attrition in the quantity during auctions and further 10% during processing, an estimated 212.82 billion sticks are produced in the country annually, while after taking into account illicit tendu patta circulation, the numbers reach 319.23 billion sticks. In another approach, 264 thousand tonnes of beedi tobacco is estimated to be rolled into a minimum of 584 billion beedi sticks and a maximum of 714 billion sticks considering 0.18-0.22

gms tobacco per sticks and accounting for 40% utilization for hukkah and nicotine extraction, 10% wastage and export of 61 tonnes of tobacco outside India. Lastly, estimation using average sticks per day by the beedi rollers projected the annual production to be between 600 billion and 1 trillion beedi sticks. The difference in production and consumption quantities may be attributed to cross border exports and illicit circulation, while, the huge difference in the quantity presented in the MoCI report signifies more than 80% beedi sticks from the unregulated sector, not contributing to government revenues, despite the potential health hazards.

Estimation of annual beedi sticks produced

Approach 1: Collected tendu patta

Tendu patta collection: 5 million bags – national weighted average of 52,548 leaves per bag

After 10% wastage during auctions and 10% during processing – **212.82 billion sticks**

Accounting for illicit tendu patta collection – **319.23 billion sticks**

Approach 2: Cultivated beedi tobacco

Beedi tobacco annual production: 264 thousand tonnes

After 10% wastage during auctions and 10% during manufacture and export – 214 thousand tonnes

Minimum sticks (0.22 gms per beedi) – **584 billion sticks**

Maximum sticks (0.18 gms per beedi) – **714 billion sticks**

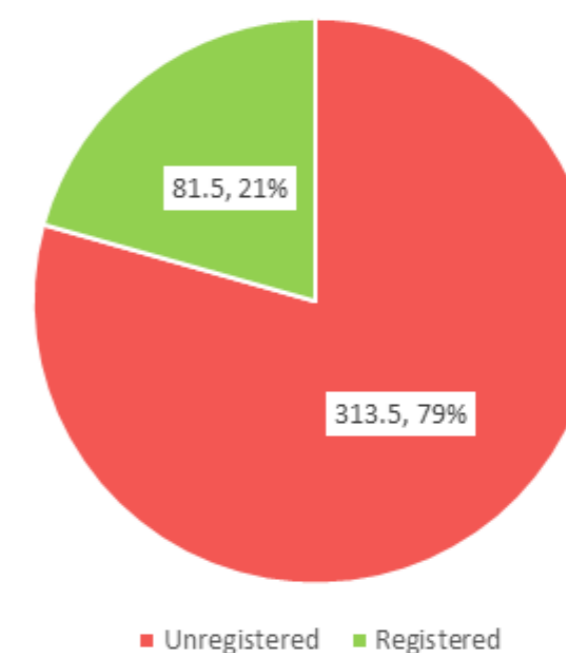
Approach 3: Sticks made by beedi rollers (300 annual working days for daily wage earners)

Average 400 sticks rolled per worker – **600 billion sticks**

Average 700 sticks rolled per worker per day – **1 trillion sticks**

As other statistics related to the production and distribution of Beedi trade were not available in any published and grey literature, open-source directories such as yellow pages and online directories were referred to gather the list of manufacturers, distributors, wholesalers and dealers involved in the supply chain of Beedi trade. To validate, the same data was triangulated through consultation exercises with officers from labour department and GST department. Number of state-wise/ district-wise manufacturers along with major available brands have been line-listed in each of the state reports in subsequent sections. Annexure 1 enlists statewide availability of major beedi brands.

Fig 5. Proportion of Beedi Sticks in circulation from registered and unregistered sectors

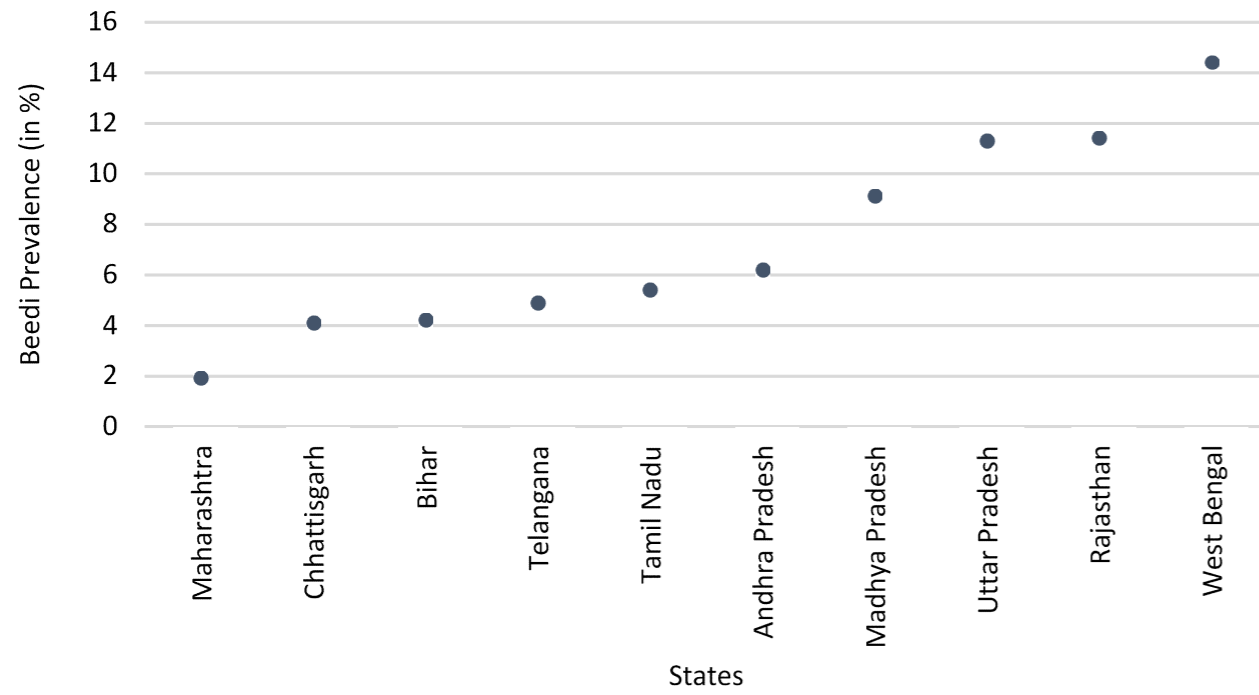


Beedi Smokers

Accounting for a population of over 1.2 billion, there is 7.7% Beedi smoking prevalence in India. This number corresponds to 93 million Beedi smokers present in India, out of which approximately 87 million (14%) were males and 7 million (1.2%) were females. Furthermore, 17 million (4.7%) beedi smokers are located in urban areas and 77 million (9.3%) are located in rural areas.[1]

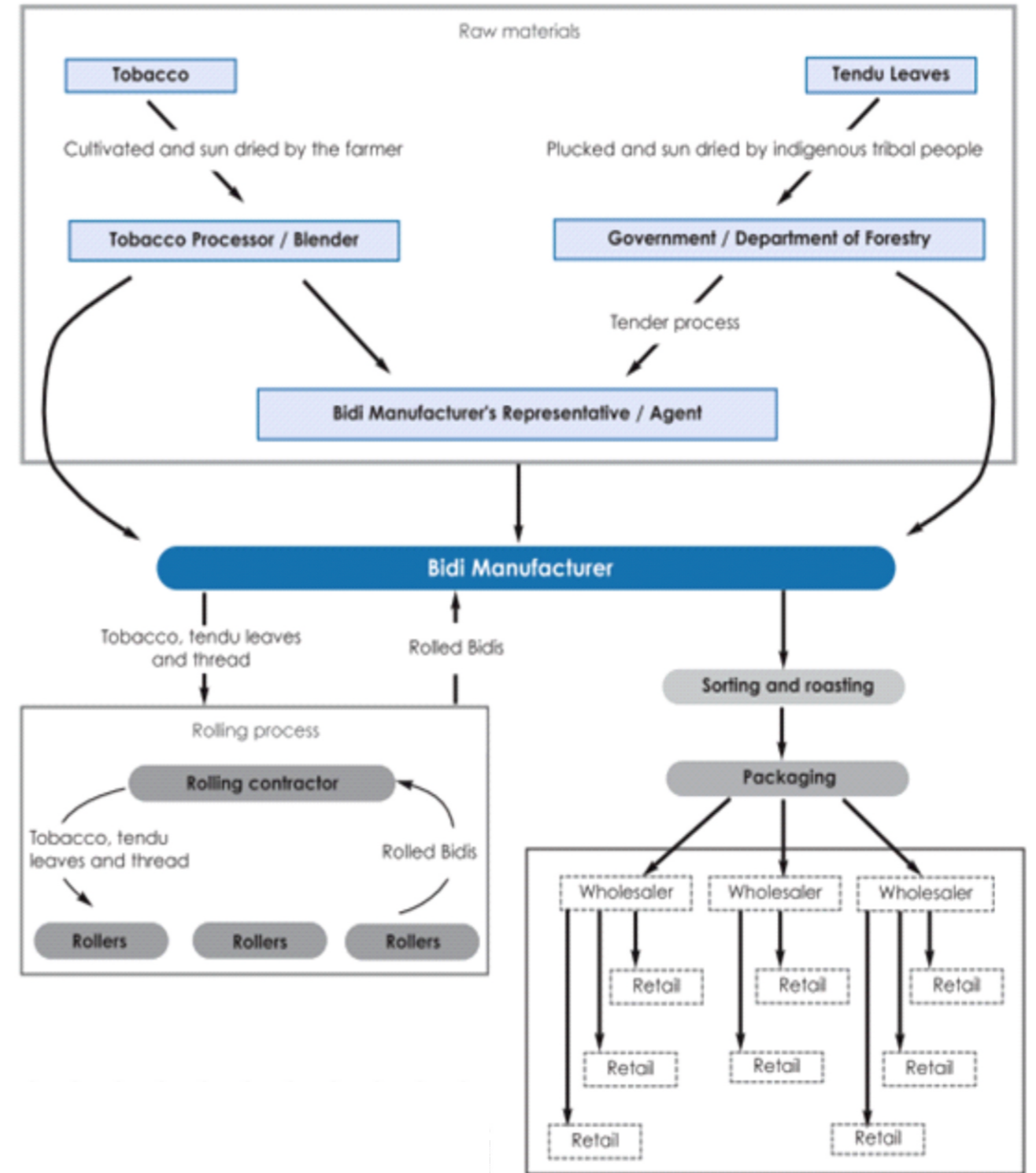
According to the GATS-II, the mean age at initiation of smoking tobacco is 18.9 years. A total of 53.8 percent smokers planned or thought about quitting, out of whom 54 percent of Beedi smokers attempt due to pack warning labels.[1]

Fig 6. Prevalence of Beedi Smokers by States, GATS-II, 2016-17



Source: GATS-II (2016-17)

Fig 7. Beedi Trade Supply Chain



Source: Sunley EM, 2008[18]

Andhra Pradesh

Andhra Pradesh is the second largest tobacco producing state in India.[19] The state has a prevalence of 20.0% tobacco users, below the national average of 28.6 percent, out of which the beedi consumption has a prevalence of 6.2%.[1]

Tendu Patta Collection

Andhra Pradesh is the fifth largest Tendu leaves producing state in the country. Tendu leaves collection was nationalized in Andhra Pradesh in 1971 under the The Andhra Pradesh Minor Forest Produce (Regulation of Trade) Act of 1971, with the aim to provide employment opportunities to local people.[21,22] The state produces 869 tonnes of tendu leaves amounting to 20 thousand standard bags of 50,000 leaves each. The tendu leaves collection centres are called Kallam and there are over 15,000 such collection centres in the state.[23]

Tobacco Cultivation

Tobacco Cultivation in Andhra Pradesh covers an area of about 78 thousand hectares with an annual production of over 177 million tonnes and a yield of 2269 kg/ha in 2016-17. However, as per the Department of Agriculture, the cultivation and production has fallen in recent years, with a recorded area of 98 thousand hectares and a production of about 222 million tonnes in the year 2015-16.[7]

Production and Distribution

A total of 147 tobacco manufacturers are established in various districts of Andhra Pradesh, [24] employing over 450 thousand registered beedi workers (2021-22) as per the annual report of Ministry of Labour and Employment. [25] Though the state records provide a minimum wage of INR 315 per 1000 sticks, the state has one of the lowest daily wages of Beedi rollers with an average daily wage of INR 245.5 (2017).[26,27] There are 16 beedi exporters in Andhra Pradesh in 2023 according to the Ministry of Commerce & Industries.[28]

Numerous studies and case incidences have been reported from Mustabad region of Krishna District and, Nizamabad district (now Telangana), etc. that provide evidences regarding challenges encountered by women beedi workers and exploitation by the middleman. Despite government assistance being provided to these labourers, the working conditions are described as miserable. They suffer from Asthma, tuberculosis, back-strains and spondylitis, swelling of lower limbs, indigestion and lower back pains. Moreover, the wages are not paid timey and their children are also exposed to the health hazard associate with tobacco exposure.[29,30]

Beedi Smokers

With a population of over 84.6 million, there is 6.2% prevalence of Beedi smoking in Andhra Pradesh which corresponds to over 5.2 million Beedi smokers. The GATS-II survey reported no female Beedi smokers in the state (prevalence – 0.0%) thus marking all 5.2 million consumers to be males with a prevalence of 12.6 percent amongst all male residents of the state. Furthermore, 1,044,105 (3.7%) Beedi smokers are located in urban areas and 42,27,127 (7.5%) in rural areas. The mean age at initiation of tobacco use is 19.4 years.



Bihar

The state of Bihar has a prevalence of 25.9% of tobacco users. The prevalence of Beedi consumption is 4.2% which is below the national average.[1]

Tendu Patta Collection

Bihar produces approximately 2,573 tonnes of tendu leaves annually, generating 60 thousand standard bags of 50,000 leaves each. The collection centres are spread across the districts of Vaishali, Muzaffarpur, Darbhanga and Sitamarhi districts. Following the national trends, the tendu leaves collection was nationalized in Bihar in the year 1974.[31,32]

Tobacco Cultivation

Tobacco Cultivation in Bihar was recorded covering an area of 10.05 thousand hectares with production of 17.69 million tonnes in 2016-17, with a yield of about 1761 kg/ha. The cultivation of tobacco in Bihar has risen from previous years recording 9.10 thousand hectares and a production of 15.81 million tonnes in the year 2015-16.[7] For the cultivation, the land is utilized in the districts of Vaishali, Muzaffarpur, Darbhanga and Sitamarhi.[33]

Production and Distribution

A total of 200 manufacturers operate across various districts in Bihar.[34] With a total of 2,96,972 registered beedi workers (2021-22), as per the annual report of Ministry of Labour and Employment. Bihar has one of the minimum daily wage rates for the Beedi rollers ranging from INR 192 to 247 (2017).[34,35] There are 2 beedi exporters in Bihar in 2023 according to the Ministry of Commerce & Industries.[27]

Case studies on beedi workers in the state report that more than 70% of beedi rollers to have experienced ocular, stomach and nervous system disorders and seventy-five percent of the labourers to have osteological issues.[37]

Major brands available:

- Gulab Mark Beedi
- Anguur Chaap Beedi
- Chand Beedi

Beedi Smokers

With a population of over 104 million according to the 2011 census, the prevalence of 4.2% Beedi smoking in the state corresponds to nearly 4.7 million Beedi smokers. Out of these, approximately 2,985,298 (5.5%) males and 1,444,817 (2.9%) are females. Furthermore, 129,338 (1.1%) Beedi smokers are located in urban areas and 4,340,047 (4.7%) in rural areas. The average age of initiation to tobacco consumption in the state is 18.9 years and a total of 40.5% percent

smokers planned or thought about quitting in the state. Out of them, 51.3% percent of Beedi smokers reported attempting to quit due to pack warning labels. Moreover, there has been a recent decline of Beedi smokers by 4.2 percent from GATS - I to GATS - II.[1]



Chhattisgarh

Chhattisgarh has a state prevalence of 39.1% tobacco users, which is above the national average. Out of this, Beedi consumption is prevalent amongst 4.1% of the residents of the state.[1]

Tendu Patta Collection

With a total of 901 units of Tendu leaves collection centers, Chhattisgarh ranks second in the production of tendu leaves in the country, closely following Madhya Pradesh. The collection units are spread across districts of Bijapur, Sukma, Dantewada, Jagdalpur, South Kondagaon, Keshkal, Narayanpur, East Bhanupratappur, West Bhanupratappur, Kanker, Rajnandgaon, Khairagarh, Balod, Kawardha, Dhamtari, Gariyaband, Mahasamund, Balodabazar, Bilaspur, Marwahi, Janjgir Champa, Raigarh, Dharamjaigarh, Korba, Katghora, Jashpurnagar, Manendragarh, Koriya, Sarguja, Balrampur and Surajpur. The collection of Tendu leaves was nationalized in Chattishgarh in 1964 while it was still a part of Madhya Pradesh. The Forest Department estimated 1.67 million standard tendu bags sold in the year 2019 generating a revenue of INR 4.34 billion.[38,39]

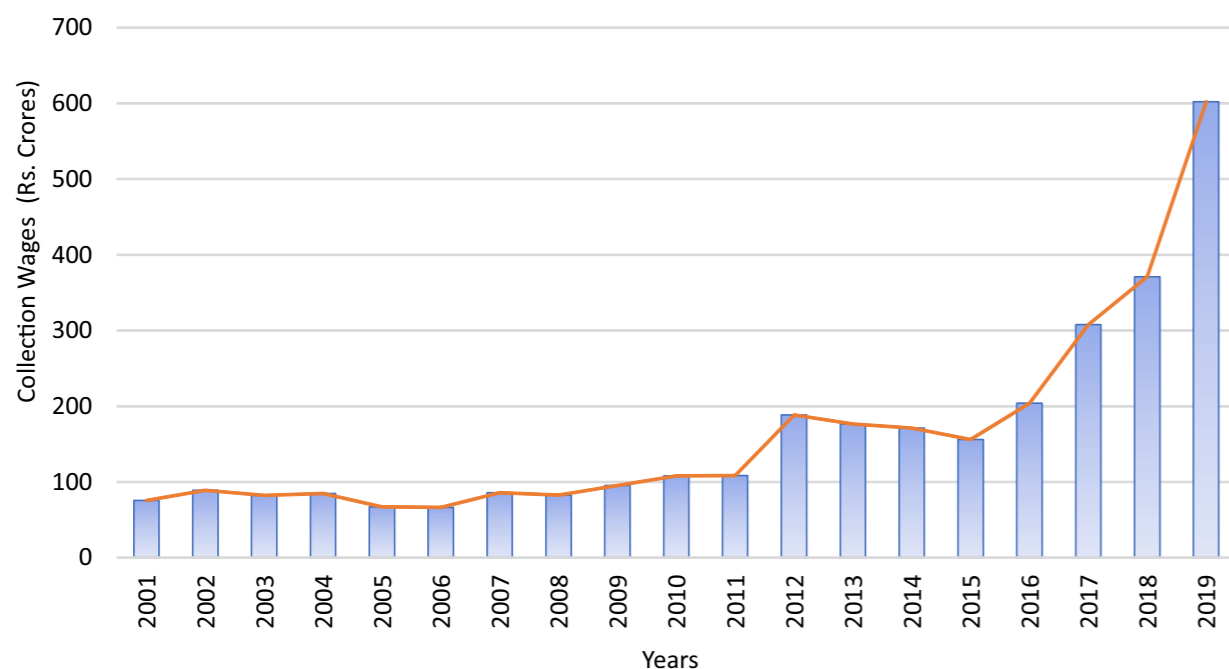


Table 1. Revenue (INR) received by Chhattisgarh Government from Tendu leaves

Year	Collected Quantity (Lakh Standard Bags)	Collection Wages (Rs. Crores)	Sale Value (Rs. Crores)	Average Sale Rate (Rs. per Std. Bag)
2001	16.67	75.53	165.22	1000
2002	19.58	88.92	198.71	1015
2003	18.12	82.18	173.25	956
2004	18.86	84.92	148.50	787
2005	14.92	67.17	135.06	906
2006	14.72	66.31	140.02	951
2007	17.18	85.96	325.59	1895
2008	13.79	82.77	197.61	1434
2009	14.67	95.33	256.41	1748
2010	15.45	108.15	335.30	2170
2011	13.57	108.52	355.31	2619
2012	17.15	188.66	646.90	3772
2013	14.71	176.70	362.13	2461
2014	14.28	171.40	334.75	2345
2015	13.01	156.13	345.50	2656
2016	13.61	204.21	638.89	4693
2017	17.10	307.80	1358.65	7945
2018	14.85	371.15	744.97	5033
2019	15.05	602.14	783.34	5218
2020	16.72	--	434	--

Source: Forest dept, Chhattisgarh

Fig 7. Chhattisgarh Collection Wages from Tendu Leaves



Tobacco Cultivation

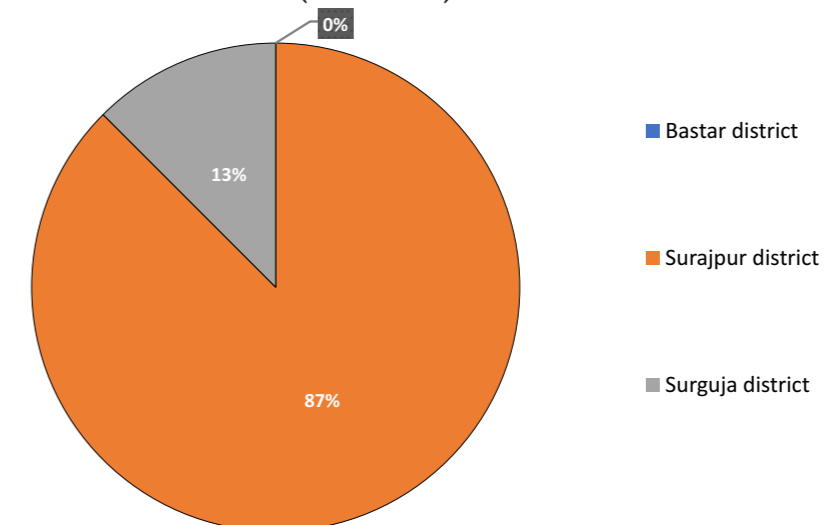
For the cultivation of tobacco 16 ha of land is utilized in Bastar, Surajpur & Surguja regions yielding a production of 8 tonnes of tobacco from the state, (Table 2).[27]

Table 2: Regional wise distribution of area under tobacco cultivation (in hectares) and yield (in tonnes) –for 2018-19

State/Crop/District	Season	Area (Hectare)	Production (Tonnes)	Yield (Tonnes/Hectare)
1.Bastar	Whole Year	2	0	0.00
2.Surajpur	Whole Year	12	7	0.58
3.Surguja	Whole Year	2	1	0.50
Total - Tobacco		16.00	8	0.50

Source: Ministry of Agriculture and Farmers Welfare, 2019

Fig 8. Regional distribution of tobacco production of Chhattisgarh (in tonnes)



Source: Ministry of Agriculture and Farmers Welfare, 2019

Production and Distribution

The state has a total of 92 tobacco manufacturers from across all districts. The district-wise segregation of manufacturers is enlisted below.[40]

- | | | | |
|---------------|--------------------|----------------|------------------|
| Bhilai (4) | Janjgir-champa (2) | Mahasamund (2) | Rajnandgaon (12) |
| Bilaspur (12) | Kanker (1) | Raigarh (6) | Surajpur (1) |
| Dhamtari (4) | Korba (4) | Raipur (30) | Surguja (6) |
| Durg (7) | | | |

Labour statistics revealed a total of 3,893 registered beedi workers as of 2021-22 employed in Chhattisgarh, with minimum daily wages ranging between INR 366.92 to INR Rs 471.92.[29]

Major brands

- 501 Beedi
- Meghna Beedi
- No.28 Beedi
- Manglore Ganesh Beedi
- Gola Beedi
- Bengali Beedi
- Sadhna Beedi
- Kake Beedi
- Thirty brand Beedi
- Jayanti Beedi
- Soldier Beedi,

Various case incidents reported from the state depict issues and challenges surrounding Beedi workers and people involved in tendu patta collection, such as, under-counting and late payments.[41] Due to severely lower wages, parents involve their children in the Beedi rolling business. This is not seen as violation due to the law framework children who assist their family business are not counted as child labour.[42] In the state, co-operatives have replaced the

middleman to purchase tendu leaves at scrap price and then sell them to factories at high profit price.[43]

Another interesting report presented findings that the growing mining activity in the, which provides tribals with incomes worth INR 2.50 billion, polluted and kills the tendu leaves by coating them in black soot is a cause of recent decrease in yields of the leaves.[44]

Beedi Smokers

Considering the population of Chhattisgarh as per the 2011 census at 25 million, and with a prevalence of 4.1% beedi consumption, this correspondence to 1,404,986 beedi smokers in state. All the consumers are males as no female Beedi smoker were reported in GATS-II in the state. Out of these, 201,866 are located in urban areas and 843,142 in rural areas. The mean age at initiation of tobacco use is 18.5 years and there has been a 2.3 percent from GATS-I to GATS-II.[1]

Madhya Pradesh has a state prevalence of 34.2% tobacco users and 9.1% Beedi users, both are above the national averages.

Tendu Patta Collection

Madhya Pradesh is the largest producer of tendu leaves in the country having more than 15,000 collection centers. The centers are spread across the districts of Bhopal, Chhatarpur, Shivpuri, Tikamgarh, N. Sagar, Gwalior, Vidisha, Raisen, S. Sagar, Damoh, Riva, Umariya, Katni, Jabalpur and Narsinghpur. Madhya Pradesh was the first state where tendu leaves collection was nationalized, in the year 1964. The production from Madhya Pradesh constitutes roughly one-fifth of the entire nation's tendu patta produce with 2.02 million standard bags sold in the year 2019 generating a revenue of INR 8.15 billion.[45]

Though there has been a decadal increase in the revenue collection, but in the last 3 years a steady decline is evident in the state with the peak of 12 billion in 2017. (Table 1)

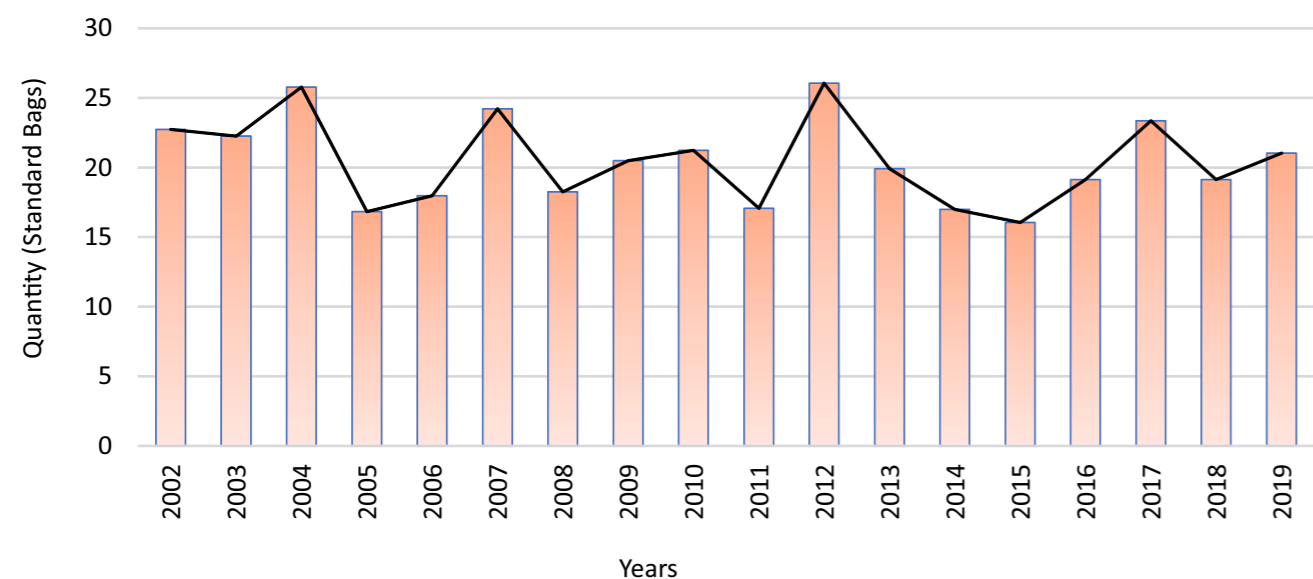
Table 3: Production & Revenue from Tendu Leaves in Madhya Pradesh State (Year 1989 to 2019)

Year	Collection	Collection Rate per S.B	Collection Wages	Quantity Stored	Quantity disposed off	Sale Price	Expenditure	Net receipt
1989	43.61	150	65.42	43.58	43.58	405.15	114.70	290.45
1990	61.15	250	152.88	60.57	60.57	248.47	209.12	39.35
1991	46.16	250	115.40	45.79	45.79	298.07	180.00	118.07
1992	45.06	250	112.65	44.64	44.64	285.99	201.47	84.52
1993	41.31	300	123.93	40.98	40.98	252.77	198.29	54.48
1994	42.38	300	127.14	42.08	42.08	299.40	210.95	88.45
1995	39.56	300	118.68	39.36	39.36	289.39	197.80	91.59
1996	44.60	350	156.10	44.43	44.43	338.85	269.38	69.47
1997	40.14	350	140.49	39.95	39.95	338.69	244.05	94.64
1998	45.47	400	181.84	45.23	45.23	407.66	280.39	127.27
1999	49.37	400	194.20	49.12	49.12	402.20	283.87	118.33
2000	29.59	400	114.78	29.49	29.49	176.31	160.08	16.23
2001	21.28	400	83.09	21.22	21.22	111.05	136.07	-
2002	22.74	400	89.04	22.65	22.65	165.77	143.83	21.94

2003	22.25	400	87.56	22.21	22.21	152.95	140.71	12.24
2004	25.77	400	101.61	25.72	25.72	167.71	145.86	21.85
2005	16.83	400	66.37	16.82	16.82	131.41	106.90	24.51
2006	17.97	400	71.88	17.97	17.97	151.33	100.56	50.77
2007	24.21	450	108.95	24.21	24.21	373.64	136.89	236.75
2008	18.25	550	100.35	18.25	18.25	211.26	136.57	74.69
2009	20.49	550	112.67	20.49	20.49	265.49	149.86	115.63
2010	21.24	650	138.11	21.24	21.24	332.89	179.71	153.18
2011	17.06	650	110.85	17.06	17.06	310.06	154.10	155.96
2012	26.06	750	195.45	26.06	26.06	618.40	245.94	372.56
2013	19.92	950	189.28	19.92	19.92	394.81	247.04	147.77
2014	16.99	950	161.42	16.99	16.99	310.09	217.39	92.70
2015	16.05	950	152.47	16.05	16.05	329.27	216.06	113.20
2016	19.14	1250	232.13	19.14	19.14	627.25	297.82	329.42
2017	23.36	1250	292.00	23.36	23.36	1291.30	356.87	982.50
2018	19.14	2000	382.80	19.14	18.92	893.01	452.03	448.37
2019	21.04	2500	526.00	21.04	20.15	815.07	617.13	198.19

Source: Forest dept, Madhya Pradesh

Fig 9. Collection of Tendu Leaves in Madhya Pradesh



Source: Forest dept, Madhya Pradesh

Tobacco Cultivation

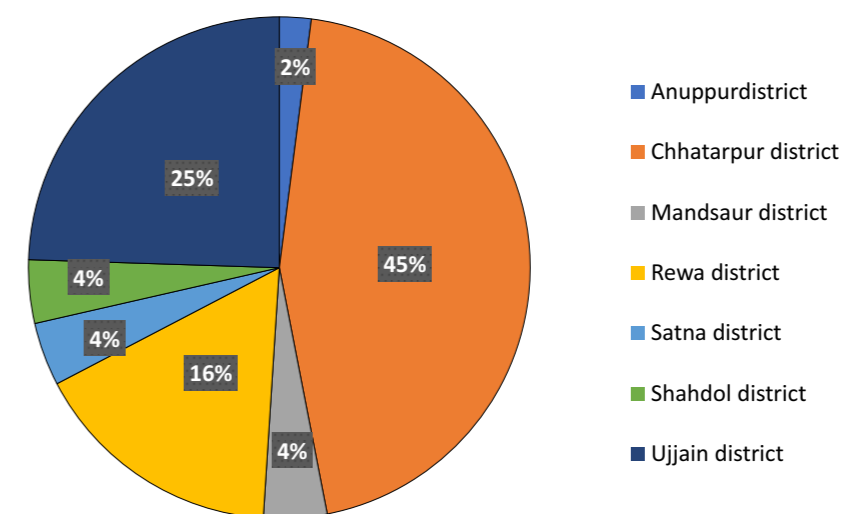
For the cultivation of tobacco, 100 hectares of land is utilized in Anuppur, Chhatarpur, Mandsaur, Rewa, Satna, Shahdol and Ujjain regions, yielding a production of 49 tonnes of tobacco from the state. Maximum contribution was recorded from Chhatarpur region (53 hectares and 22 tonnes). (Table 2)[27]

Table 4: Regional wise distribution of area under tobacco cultivation and yield (2013-14)

State/Crop/District	Season	Area (Hectare)	Production (Tonnes)	Yield (Tonnes/Hectare)
1.Anuppur	Whole Year	2	1	0.50
2.Chhatarpur	Whole Year	53	22	0.42
3.Mandsaur	Whole Year	3	2	0.67
4.Rewa	Whole Year	12	8	0.67
5.Satna	Whole Year	9	2	0.22
6.Shahdol	Whole Year	3	2	0.67
7.Ujjain	Whole Year	18	12	0.67
Total - Tobacco		100.00	49	0.49

Source: MoA&FW, 2014

Fig 10. Regional distribution of tobacco production of Madhya Pradesh (in tonnes)



Source: MoA&FW, 2014

Production and Distribution

A total of 420 tobacco manufacturers were found operating in all districts of Madhya Pradesh.[46] There are 4 beedi exporters in Madhya Pradesh in 2023 according to the Ministry of Commerce & Industries.[27] The district-wise segregation of manufacturers is enlisted below:

Balaghat(8)	Dhar(5)	Mandla(1)	Sagar(30)
Barwani(5)	Guna(13)	Mandsaur(7)	Satna(16)
Betul(8)	Gwalior(28)	Morena(4)	Sehore(4)
Bhind(3)	Harda(1)	Narsinghpur(10)	Seoni(4)
Bhopal(41)	Hoshangabad(3)	Neemuch(1)	Shahdol(3)
Burahanpur(2)	Indore(49)	Panna(2)	Shajapur(7)
Chhatarpur(7)	Jabalpur(33)	Pithampur(3)	Shivpuri(8)
Chhindwara(7)	Jhabua(2)	Raisen(8)	Sidhi(2)
Damoh(21)	Katni(5)	Rajgarh(7)	Tikamgarh(5)
Datia(7)	Khandwa(11)	Ratlam(6)	Ujjain(3)
Dewas(9)	Khargone(13)	Rewa(1)	Vidisha(4)

Labour statistics revealed a total of 4,40,556 registered beedi workers (2021-22) employed in Madhya Pradesh.[29] The state has the minimum daily wage rates ranging from INR 350.96 to 486.92 for Beedi industry workers.[47]

The case studies from the state provide details about exploitation of women and child Beedi workers as they remain the most exploited section, with a share of 95% of all the labour. The exploitation is mainly because of (i) high rejection rates, (ii) demanding extra Beedis over and above the production for which payment is made, (iii) insufficient supply of raw materials, and (iv) a payment of less than the existing minimum rate of wages.[47,48] The average term of a Beedi Rolling Worker in the industries is 14 to 20 years. Their awareness about the availability of facilities from various Acts laid down by the Government is minimal.[50] Beedi 'rolling' accounts for 88 percent of all the Beedi industry jobs in the state, followed by Wrapping / Labeling / Bundle Making and Taraiwala / Sorting / Checking.

Studies from the state show that Every year around 48,100 people die from beedi consumption, which is equivalent to the death of 1 out of every 14 beedi workers. This is a huge cost to pay to maintain employment.[51]

Major brands

- 30 Chap Beedi,
- Laxmi Marka,
- Shankh Beedi,
- Ganga Jamuna,

- Kalkatta, Santram,
- Shri 55,
- New Calcutta Biri,
- 77 No.,
- Manohar
- 512 No. Beedi,
- Tractor Chap Beedi No.11,
- Chandak Brothers (Murga Chhap)
- Sikka, Kanta Chhap

Beedi Smokers

The population of Madhya Pradesh is approximately 72.6 million and with a prevalence of 9.1% Beedi smokers, this correspondence to 6,609,040 people in the state. Out of these, approximately 6,469,317 are males and 140,058 are females, and 1,083,748 are located in urban areas, while, 5,623,642 are located in rural areas.⁷ The mean age at initiation is 18.3 years and there has been a 4.30 percent decline of Beedi smokers from 2009 to 2016. A total of 48.2 percent smokers planned or thought about quitting, out of whom 53.6 percent of Beedi smokers attempted due to pack warning labels.[1]

Maharashtra

Maharashtra has a prevalence of 26.6% tobacco users, which is close to the national average. However, the Beedi consumption prevalence in the state is one of the lowest with 1.9 percent higher only from Mizoram with 1.5% prevalence.[1]

Tendu Patta Collection

Maharashtra has a total of 76 units allotted for tendu leaves collection (48 units & 28 groups of 63 units) with a notified yield of 63,153 standard bags in 2021. The resultant revenue generation was INR 170 million as per the data published by the Forest Department. The circles for tendu patta collection include: Gadchiroli, Chandrapur, Nagpur, Yavatmal, Amravati, Aurangabad and Dhule spread over an area of 141.05 thousand hectares.[52] The nationalization of tendu patta was done in the year 1969. (Tables 5 and 6)

Table 5. Production & Revenue from Tendu Leaves in Maharashtra, Year 2009 to 2019

Year	No. of units	Selling unit (bags)	Revenue (Sale in Cr.)
2006	NA	NA	2.2
2007	NA	NA	9.6
2008	NA	NA	4.5
2009	NA	NA	6.3
2010	NA	NA	9.1
2011	NA	NA	10.0
2012	NA	NA	14.1
2013	NA	NA	6.4
2014	NA	NA	5.5
2017	18 gram sabha	5458 bags (70,000 tendu leaves per bag)	5.07
2018	902	27667	25
2021	76	63153 (notified yield)	17

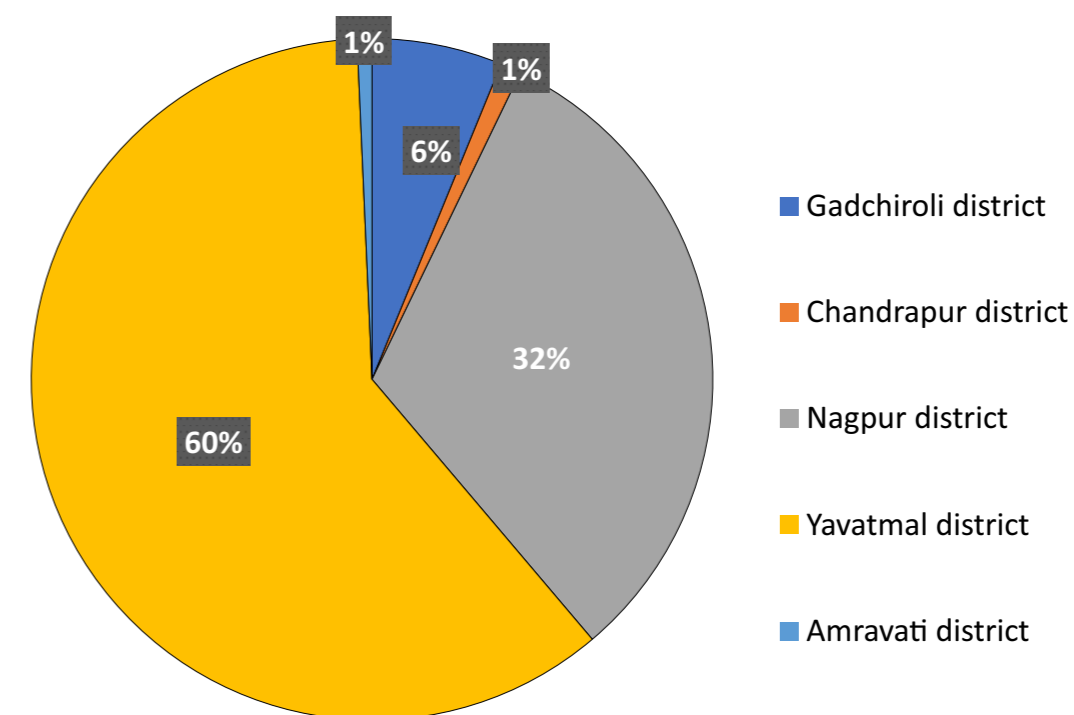
Source: Forest dept, Maharashtra

Table 6. Tendu Production Area Under Community Forest Rights in Maharashtra (2018)

Circle	Villages	Forest Area (In hectare)	Notified Yield (In standard bags)
Gadchiroli	58	8732.46	2438
Chandrapur	5	1378.546	475
Nagpur	472	44632.067	12825
Yavatmal	363	85317.75	11849.16
Amravati	4	990.354	80
Total State	902	141051.177	27667.16

Source: Forest dept, Maharashtra 2018

Fig 11. Regional distribution of area under tobacco cultivation in Maharashtra (in hectares)



Forest dept, Maharashtra 2018

Tobacco Cultivation

The total area under tobacco cultivation in 2019-20 was 456 hectares with a production of 828 tonnes and a yield of 1.82 kg/hectare.[27]

Production and Distribution

A total of 2,171 Beedi manufacturing units from 32 districts of Maharashtra with district-wise segregation is enlisted below:[53]

Mumbai(503)	Ahmednagar(66)	Raigad(32)
Thane(196)	Nashik(56)	Gondia(29)
Pune(171)	Jalgaon(55)	Buldhana(28)
Nagpur(146)	Yavatmal(55)	Akola(27)
Aurangabad(85)	Jalna(46)	Osmanabad(27)
Kolhapur(84)	Navi Mumbai(45)	Latur(25)
Solapur(77)	Wardha(44)	Dhule(24)
Sangli(73)	Amravati(43)	Beed(22)
Parbhani(19)	Satara(37)	Bhandara(21)
Palghar(18)	Ratnagiri(36)	Chandrapur(19)
Sindhudurg(15)	Nanded(11)	

There are 69 beedi exporters in Maharashtra in 2023 according to the Ministry of Commerce & Industries.[27]

Maharashtra has a total of 1,55,089 beedi workers (2021-22) with daily wage rate ranging from INR 253 - 230.65 in 2014-16.[29,54] In a study in Sholapur district of Maharashtra, it was found that 90 percent of the beedi workers are interested in shifting their job to alternate livelihood because of their exploitation and poor working condition.[55] On the contrary, in another study, Ahmednagar, Maharashtra, it was found that the majority of beedi rollers are satisfied with their job because it provides huge employment opportunities to the women with the flexibility of work hours and the ability to work from home.[55,56] Further, these women are issued a 'Beedi Card' from the Beedi factory they work at which gives them provident fund and other medical benefits. Another case studies reported that Beedi rollers suffer from many health ailments like musculoskeletal discomfort and exhaustion.[58]

Beedi Smokers

The population of Maharashtra as per the 2011 census was 112,374,333, which, with the prevalence of 1.9% of Beedi smokers, correspondence to 2,135,112 people. The number

corresponds to 2,096,750 (3.6%) males and 54,131 (0.1%) females and 914,729 (1.8%) smokers located in urban areas and 1,231,121 (2%) located in rural areas. The mean age at initiation of tobacco use is 18.5 years in the state and there has been a 0.8 percent decline of Beedi smokers since 2009 as per GATS-II. A total of 56.7 percent smokers planned or thought about quitting, out of whom, 35.5 percent of Beedi smokers attempted to quit due to pack warning labels.[1] prevalence of 1.9 percent of Beedi smokers, correspondence to 21,35,112 people. The number corresponds to 20,96,750 (3.6%) males and 54,131 (0.1%) females and 9,14,729 (1.8%) smokers located in urban areas and 12,31,121 (2%) located in rural areas. The mean age at initiation of tobacco use is 18.5 years in the state and there has been a 0.8 percent decline of Beedi smokers since 2009 as per GATS-II. A total of 56.7 percent smokers planned or thought about quitting, out of whom, 35.5 percent of Beedi smokers attempted to quit due to pack warning labels.[1]

Rajasthan

The state prevalence tobacco users in Rajasthan is 24.7%, which is below the national average, however, the prevalence of Beedi consumption at 11.4% is higher the national average of 7.7 percent, making the state one of the highest consumers of the product.[1]

Tendu Patta Collection

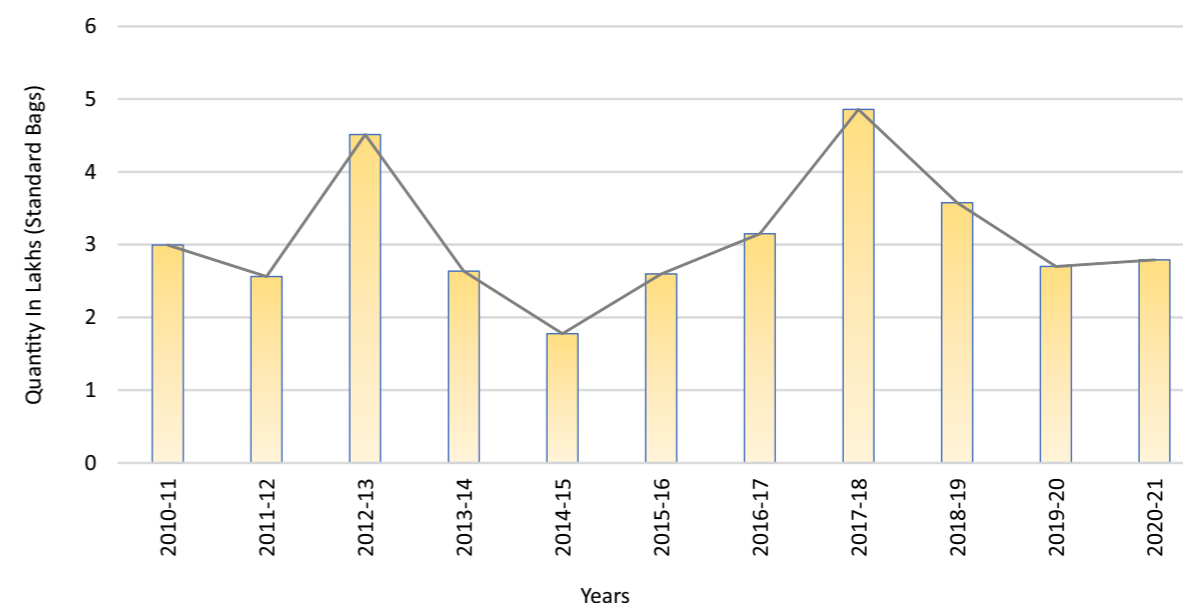
Tendu leaves collection was nationalized in Rajasthan in 1974. Currently, the state has a total of 167 units of Tendu leaves collection centers spread across Bundi, Baran and Jhalawar (Kota Forest division), Banswara, Udaipur, Pratapgarh, Dungarpur and Chittor (Udaipur Forest division), Bhilwara (Ajmer Forest division), Sirohi and Pali (Jodhpur Forest division) and Dholpur (Bharatpur Forest division). The decadal trends in units of bags sold range from 290 thousand standard bags in 2010-11 to 270 thousand in 2020-21, and the revenue collected range from INR 117.2 million in 2010-11 to INR 75 million in 2020-21 showing a gradual declining trend in tendu patta collection. (Table 7)[60]

Table 7. Decadal trend in Production & Revenue from Tendu Leaves in Rajasthan (2009 to 2019)

S. No.	Year	Total No. of Units	No of Standard Bags	Revenue (in lakhs)
1	2010-11	182	2,99,463	1171.49
2	2011-12	182	2,55,948	1056.79
3	2012-13	174	4,51,350	1919.13
4	2013-14	172	2,63,608	968.13
5	2014-15	168	1,77,671	598
6	2015-16	168	2,59,542	698.5
7	2016-17	167	3,14,927	2406
8	2017-18	167	4,85,766	8282.41
9	2018-19	167	3,57,603	3349.42
10	2019-20	167	2,69,905	1087.16
11	2020-21	167	2.79 lakh	750.29

Source: Forest dept, Rajasthan

Fig 12. Decadal trend of Tendu leaves Production in Rajasthan



Source: Forest dept, Rajasthan

Tobacco Cultivation

The cultivation of tobacco is spread over a cumulative area of 436 ha of land, utilized in Jaipur Region (Jaipur, Dausa and Tonk), Sikar Region (Sikar, Jhunjhunu and Nagaur), Bharatpur Region (Alwar, Bharatpur and Karauli), Jalore Region (Jalore and Sirohi), and Bhilwara Region (Bhilwara and Rajsamand), yielding a production of 746 tonnes of tobacco from the state, with maximum contribution from Jalore region (264 hectares and 451 tonnes) (Figure 1).[61]

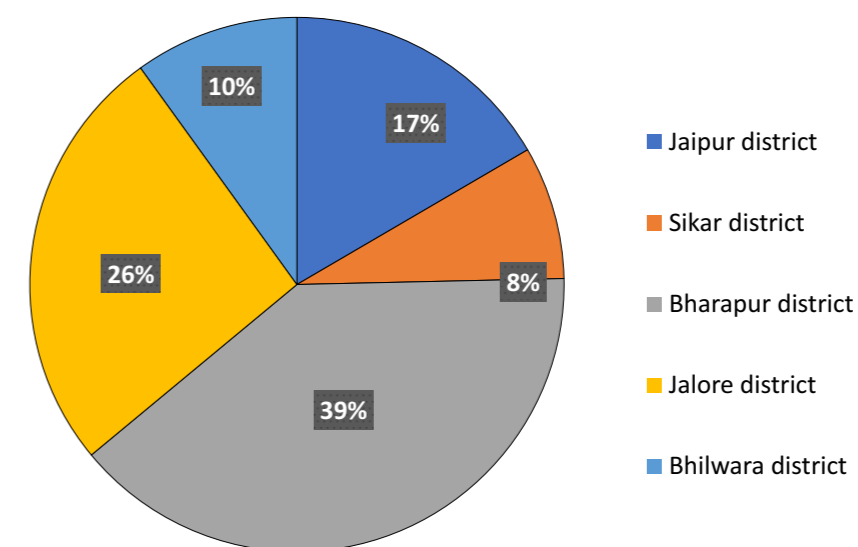
Table 8: Region wise distribution of area under tobacco cultivation (in hectares) and yield (in tonnes) - 5-year averages and estimates for 2018-19

Region	Area (Hectares)		Production (Tonnes)		Yield (Kg/Ha)	
	Final estimate 2018-19	Average last 5 years	Final estimate 2018-19	Average last 5 years	Final estimate 2018-19	Average last 5 years
Ajmer	0	0	0	0	-	-
Jaipur	0	2	0	10	-	5000
Dausa	35	24	35	16	1000	667
Tonk	0	1	0	3	-	3000
Jaipur Region	35	27	35	29	1000	1074

Sikar	1	1	4	3	4000	3000
Jhunjhunu	16	21	80	105	5000	5000
Nagaur	0	1	0	0	-	0
Sikar Region	17	23	84	106	4941	4696
Alwar	68	82	508	90	7471	1098
Bharatpur	0	2	0	2	-	1000
Dholpur	0	0	0	0	-	-
S. Madhopur	0	0	0	0	-	-
Karoli	15	28	5	19	333	679
Bharatpur Region	83	112	513	111	6181	991
Jalore	55	259	72	446	1309	1722
Pali	0	0	0	0	-	-
Sirohi	0	5	0	5	-	1000
Jalore Region	55	264	72	451	1309	1708
Kota	0	0	0	0	-	-
Baran	0	0	0	0	-	-
Bundi	0	0	0	0	-	-
Jhalawar	0	1	0	0	-	-
Kota Region	0	1	0	0	0	0
Bhilwara	0	1	0	0	-	0
Chittor	0	0	0	0	-	-
Rajsamand	21	8	42	12	2000	1500
Bhilwara Region	21	9	42	12	2000	1333
State	211	436	746	711	3536	1631

Source: Agriculture dept, Govt. of Rajasthan, 2018-19

Fig 13. Regional distribution of area under tobacco cultivation in Rajasthan (in hectares)



Source: Agriculture dept, Govt. of Rajasthan, 2018-19

A total of 401 manufacturers were found to be operational across all 33 districts of Rajasthan. There are 11 beedi exporters in Rajasthan in 2023 according to the Ministry of Commerce & Industries.[27] The district-wise segregation of manufacturers is enlisted below:[61-62]

Ajmer (37)	Jodhpur (24)	Udaipur (22)
Bhilwara (21)	Bikaner (19)	Pali (18)
Kota (18)	Nagaur (15)	Sikar (14)
Chittorgarh (13)	Tonk (9)	Alwar (8)
Barmer (8)	Hanumangarh (7)	Jalor (7)
Jhunjhunu (6)	Karauli (6)	Banswara (6)
Baran (5)	Bundi (5)	Rajsamand (5)
Dausa (4)	Sirohi (3)	Bharatpur (2)
Churu (2)	Jaisalmer (2)	Jhalawar (2)
Sawai Madhopur (1)	Sriganganagar (1)	Dungarpur (1)
Beawar (1)	Ganganagar (1)	

As per the Annual Report of Ministry of Labour and Employment, a total of 38,791 registered beedi workers (2021-22) employed in Rajasthan, while, the state has one of the minimum daily

wage rates between INR 222.39 - 232.84.[29]

As per the government reports, since 2012, Rajasthan government was planning to provide alternate livelihood to Beedi workers to discourage the tendu leaves collection. Further, in 2011-12, various state govt including Rajasthan raised VAT on Beedis to reduce tobacco consumption.[63] Again in 2015, Rajasthan government decided to cut tax by 20-30% on all tobacco products except Beedis.[64] Later in 2021, Rajasthan govt. decided to levy traffic charges on tobacco products during the lockdown to increase State government revenue collection.[65] These moves were taken in larger interest to increase the price of tobacco products, discourage the use of tobacco products and implement COTPA guidelines strictly in the state.[66]

With such strict tobacco laws in place, Rajasthan was the first state to establish a working 'State Tobacco Control Cell', and many districts were declared as smoke-free including Bikaner, Alwar, Bharatpur, Ajmer, Bhilwara, Nagaur, Jaipur, Jhunjhunu, Jodhpur, Kota and Udaipur.[66] Moreover, in the Tobacco Pack Surveillance System (TPackSS) study conducted in 2017, it was found that Rajasthan had least number of Beedi products which did not include health warnings.[68]

Major Beedi Brands

- Guru
- Delux, Special
- 30 No. Beedi
- Bhole Beedi
- Mitthu No 1
- 502 pataka beedi
- Tara, Desai
- Special
- Pataka Beedi
- Desai beedi
- Pataka

Beedi Smokers

With a population of 68,548,437 in Rajasthan (Census 2011), there is a high prevalence of tobacco product consumption, with the state Beedi prevalence of 11.4% roughly translating to a total of over 7.8 million people. The consumer comprise of 7,003,546 (19.7%) males and 923,928 (2.8%) females and 2,454,924 (4.4%) urban and 7,210,049 (14.0%) rural population. Nevertheless, there has been a nearly 5 percent decline in consumption of all forms of tobacco use (18.8 to 13.2 in smoked tobacco and 18.9 to 14.1 in smokeless tobacco) along with increase age of initiation from 17 years to 18.4 years from 2009 to 2016.[1]

Tamil Nadu has a state prevalence of 20.0% tobacco users and 5.4% Beedi users, which are below the national averages.[1]

Tendu Patta Collection

The estimated annual production of tendu leaves in the state ranges around 2000 tonnes with a revenue generation of approximately INR 50 million.[26]

Tobacco Cultivation

Tobacco cultivation in Tamil Nadu covers an area of about 2111 hectares with a production of about 3238 tonnes annually, and a yield of 1.5 kg/ha (2018-19).[27]

Production and Distribution

Tamil Nadu is one of the largest states in India in terms of beedi production. There are around 75 large-scale beedi manufacturers producing 50,00,000 or more beedis a day. Around 500 small manufacturers are engaged in producing between 5,00,000 - 50,00,000 beedis a day. Beedi production in Tamil Nadu is estimated by organisations and trade unions to be near to 500 million per day, with an annual production value of around Rs 40 billion.[68] There are 26 beedi exporters in Tamil Nadu in 2023 according to the Ministry of Commerce & Industries.[27]

Labour statistics provide an estimate of total 6,03,076 registered beedi workers (2021-22) employed in the state, with minimum daily wage rates of INR 317.96.[29]

Case studies report that beedi rolling is a common profession among women and children in the local communities of the state and it contributes heavily in generating employment opportunities. Since, the women beedi workers are mostly illiterate and poor, therefore they remain unaware about their rights, they are regularly exploited by the middleman and are exposed to the health risks continuously. A high prevalence of eye problems (70%), respiratory (50%), and osteological problems (70%) and back pain (50%) in women labourers were also repeated in numerous case studies.[70,71]

Major Beedi Brands

- Ganesh Beedi
- Kaja Beedi
- G.T. Royal
- Rs 10
- G.T. Royal
- Rs 5

Beedi Smokers

The population of Tamil Nadu is 72,147,030 as per the census 2011 and with 5.4% Beedi smoking prevalence, 3,895,939 Beedi smokers are present in state. The GATS-II reported the nil prevalence of Beedi smoking amongst females marking only males with a prevalence of 10.8 percent. 1,361,780 (3.9%) Beedi smokers are located in urban areas while, 2,531,612 (6.8%) are located in rural areas.

Further, there has been a 5.4 percent decline of Beedi smokers, and the average age at first cigarette usage has risen slightly from 18.5 years in GATS-1 to 20.6 years in GATS-II.



Telangana has a state prevalence of 17.8% of tobacco users and 4.9% Beedi users, below the national average.[1]

Tendu Patta Collection

Telangana has Tendu leaves collection center spread across the districts of Adilabad, Bhadrachari, Jangoan, Jayashankar, Jogulamba, Kamareddy, Karimnagar, Khammam, Mahabubabad and Mahbubnagar districts. Tendu leaves were nationalized in Andhra Pradesh 1974 while Telangana was still a part of the it. With 195 functional units, the state has an annual production of 670 thousand standard bags of tendu patta generating a revenue of INR 112.9 million (2004). The last recorded data available on government portals is of 2005, as mentioned in Table 9.[72]

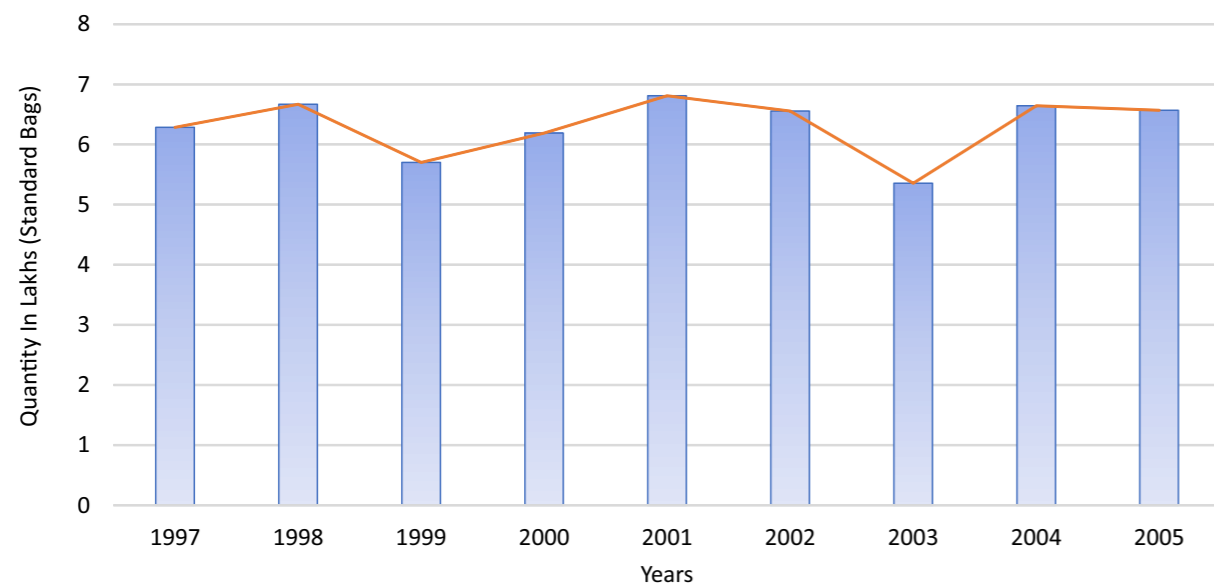
Table 9: Year-wise Production and Revenue from Tendu Patta for Telangana

Year	No of units put up for sale	No of units sold	Target of sold units (S.Bs in lakhs)	Achievement (S.Bs in lakhs)	Expenditure (Rs. in crores)	Gross Reveue (Rs. in crores)	Net Revenue (Rs. in crores)
1	2	3	4	5	6	7	8
1997	366	248	6.286	6.321	29.306	43.178	13.872
1998	366	302	6.670	6.350	32.267	52.016	19.749
1999	334	252	5.700	6.400	35.760	60.599	24.839
2000	334	275	6.188	6.600	40.018	64.634	24.616
2001	334	269	6.809	6.655	29.13	47.005	17.875
2002	331	233	6.558	5.398	34.324	49.304	14.980
2003	331	184	5.358	4.339	27.440	42.390	14.950
2004	331	159	6.645	4.598	28.24	38.240	11.29
2005	342	129	6.57	2.992	17.80*	26	7.5*

*Anticipated figures

Source: TGFMS-BLMIS, Forest dept, Telangana

Fig 14. Year-wise Production of Tendu Patta in Telangana



Source: TGMIS-BLMIS, Forest dept, Telangana

Tobacco Cultivation

Tobacco Cultivation in Telangana covers an area of 2,953 hectares of land with a production of 9,135 tonnes, and yield of about 3.09 tonne/ha (2019-20). For the cultivation of tobacco, the land is utilized in the districts of Adilabad, Bhadrachari, Jangaon, Jayashankar, Jogulamba, Kamareddy, Karimnagar, Khammam, Mahabubabad and Mahabubnagar.[27]

Production and Distribution

A total of 200 tobacco manufacturers from 19 districts of Telangana were identified and enlisted and the district-wise segregation is provided below:[73]

Karimnagar (56)	Warangal (45)
Nizamabad (42)	Adilabad (11)
Mahabubnagar (11)	Nalgonda (9)
Rangareddy (9)	Medak (8)
Nirmal (8)	Khammam (7)
Kamareddy (6)	Secunderabad (4)
Mancherial (3)	Vikarabad (3)
Medchal-malkajgiri (2)	Sircilla (2)
Jangaon (1)	Suryapet (1)

There are 15 beedi exporters in Telangana in 2023 according to the Ministry of Commerce & Industries.[27]

Labour statistics revealed a total of 4,58,040 registered beedi workers (2021-22) employed in Telangana, with the minimum daily wages of INR 241.54.[29,74] According to one of the studies on Telangana, it was found that Beedi workers and underrepresented in the Union for Beedi Workers (UBT).[75] Many other studies report poverty, illiteracy, and ignorance as the primary causes driving female Beedi rollers to engage in this hazardous employment without any usage of protective gear such as gloves or masks, leading to serious health problems. Another case study from Telangana reported morbidity in beedi workers such as back, neck, and joint problems, gynecological morbidity included menorrhagia, foul-smelling white discharge, hysterectomy due to various causes and premature menopause. A study of occupational health hazards in Telangana found that almost 90% of Beedi workers experience discomfort in various body areas such as shoulder pain and back and neck discomfort as a result of occupational health issues.[76-78]

Beedi Smokers

The population of Telangana is 35,193,978 and Beedi smoking prevalence of 4.9% corresponds to 17,24,504 Beedi smokers in the state, with 1,664,101 (9.4%) males and 52,472 (0.3%) females. Furthermore, 285,781 (2.1%) Beedi smokers are located in urban areas and 1,489,386 (6.9%) are located in rural areas. There has been a 4.9 percent decline of Beedi smokers, since 2009 and the mean age at initiation of tobacco use is 19.9 years.[1]

Uttar Pradesh

Uttar Pradesh has a state prevalence of 35.5% tobacco users and 11.3% Beedi smokers, both of which are above the national averages.[1]

Tendu Patta Collection

Uttar Pradesh has Tendu leaves collection center spread across Sonbhadra, Mirzapur, Varanasi, Allahabad, Chitrakoot, Karvi, Banda, Hamirpur, Mahoba, Jhansi and Lalitpur districts. The collection of Tendu leaves was nationalized in Uttar Pradesh in 1972 under the Tendu Patta (Vyapar Viniyaman) Act, 1972. The units of bags sold over the past decade range from 166 thousand in 2011-12 to 163 thousand in 2021-22 with a revenue collection of 299.68 million in 2011-12 to 293.40 million in 2021-22. (Table 10)[79,80]

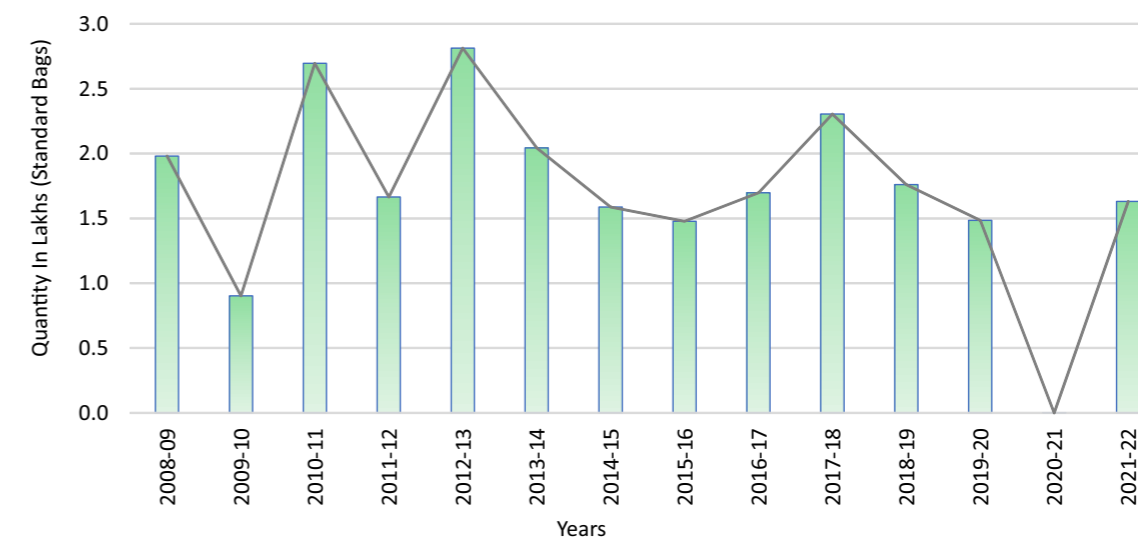
Table 10: Year-wise Production & revenue from Tendu Leaves in Uttar Pradesh (2009-19)

S.NO.	YEAR	TENDU LEAVE BAG	REVENUE (in lakhs)**
1	2021-22	163001	2934.018
2	2020-21	1	0.018
3	2019-20	148529	2673.522
4	2018-19	176153	3170.754
5	2017-18	230577	4150.386
6	2016-17	169715	3054.87
7	2015-16	147817	2660.706
8	2014-15	158760	2857.68
9	2013-14	204386	3678.948
10	2012-13	281307	5063.526
11	2011-12	166491	2996.838
12	2010-11	269675	4854.15
13	2009-10	90243	1624.374
14	2008-9	198013	3564.234

Source: Forest dept, UP

**1800 per standard bag price.

Fig 15. Year-wise Production from Tendu Leaves in Uttar Pradesh



Source: Forest dept, UP

Tobacco Cultivation

For the cultivation of tobacco 31.64 thousand hectares of land is utilized in yielding a production of 138.64 million tonnes.[81]

Production and Distribution

A total of 974 tobacco manufacturers from all districts of Uttar Pradesh have been enlisted:[82]

Agra (36)	Chandauli (8)	Jaunpur (16)	Noida (53)
Aligarh (11)	Deoria (6)	Jhansi (28)	Pilibhit (7)
Allahabad (30)	Deoria (6)	Kannauj (18)	Pratapgarh (2)
Ambedkar Nagar (9)	Etah (5)	Kanpur (139)	Raebareli (3)
Amroha (31)	Etawah (6)	Kaushambi (2)	Rampur (23)
Auraiya (3)	Faizabad (8)	Kushinagar (3)	Saharanpur (9)
Azamgarh (20)	Farrukhabad (46)	Sahibabad (2)	Lakhimpur Kheri (10)
Bahraich (6)	Fatehpur (5)	Lalitpur (5)	Sant Ravidas Nagar (5)
Ballia (5)	Firozabad (8)	Lucknow (55)	Shamli (1)
Balrampur (7)	Maharajganj (4)	Siddharthnagar (2)	Gautam Budh Nagar (9)
Banda (2)	Ghaziabad (37)	Mahoba (1)	Sikandrabad (1)
Barabanki (6)	Ghazipur (12)	Mainpuri (2)	Sitapur (17)
Bareilly (27)	Gonda (14)	Mathura (21)	Sonbhadra (8)
Basti (5)	Gorakhpur (17)	Mau (4)	Sultanpur (9)
Bhadohi (7)	Hamirpur (3)	Meerut (13)	Unnao (12)
Bijnor (4)	Hardoi (16)	Mirzapur (16)	Varanasi (30)

Budaun (9) Hathras (1) Moradabad (12) Bulandshahar (2)
 Jalaun (2) Muzaffarnagar (13)

There are 48 beedi exporters in Uttar Pradesh in 2023 according to the Ministry of Commerce & Industries.[27]

Uttar Pradesh has a total of 4,12,757 beedi workers (2021-22) as per the Ministry of Labour and Employment, and the state has one of the minimum daily wage rates ranging from INR 103.85 – INR 228.70.[29,83]

Various studies from the state report employees' working hours of 14-16 hours per day, while the wages pay is insufficient or falling short of the minimum wage set by the government.[84] Women prefer beedi rolling in this part of the country because it enhances family income in extremely low-income households.[85] Poverty is seen as the main reason that induces the poor strata of population to take up beedi work as an occupation. Majority (98%) of the Beedi workers were from the marginalized sections of the society and 58% earn less than Rs. 1,500 per month which is not adequate to maintain even their basic family needs.[87] Further, the rapid increase in the number of women engaged in home-based Beedi rolling work was observed to be due to the limited choice in occupational opportunities for women.[87,88]

Major Beedi Brands

- 502
- Rampyare Beedi,
- Seema Beedi,
- Mahananda 902,
- 120 Viyad Beedi,
- Shyam Beedi,
- Parasnath Beedi,
- Milan Beedi
- Master Beedi
- Speshal Beedi,
- Panjab Mel,
- Chaman Gold,
- Chaman Gold,
- Jeet Beedi 702,
- Special Farmaish Beedi,
- No - 20 Beedi Fatehpur,
- Dinesh Biri 555
- Tara Beedi,
- Tufan Mel,
- Howrah biri,
- Kisan Filter Beedi,
- Three-star Beedi,
- Pataka 502
- Panchhi Beedi,
- Royal Beedi,
- 447 biri,
- Suraj Beedi,
- Shyam Beedi,

Beedi Smokers

The population of Uttar Pradesh was 199,812,341 and Beedi smokers with a prevalence of 11.3% constitute 22,578,794 persons, with 20,373,699 males and 2,478,628 females. 2,536,219 Beedi smokers are located in urban areas and 20,501,881 in rural areas. There has been a recent decline of 22.5 percent from 2009 and the mean age at initiation of tobacco use is 18.7 years. A total of 56.4 percent smokers planned or thought about quitting out of whom 57.7 percent of Beedi smokers attempted due to pack warning labels.[1]

West Bengal has a prevalence of 33.5% tobacco users, which is below the national average while the Beedi consumption has a state prevalence of 14.4% making it one of the highest Beedi consuming regions of the country.[1]

Tendu Patta Collection

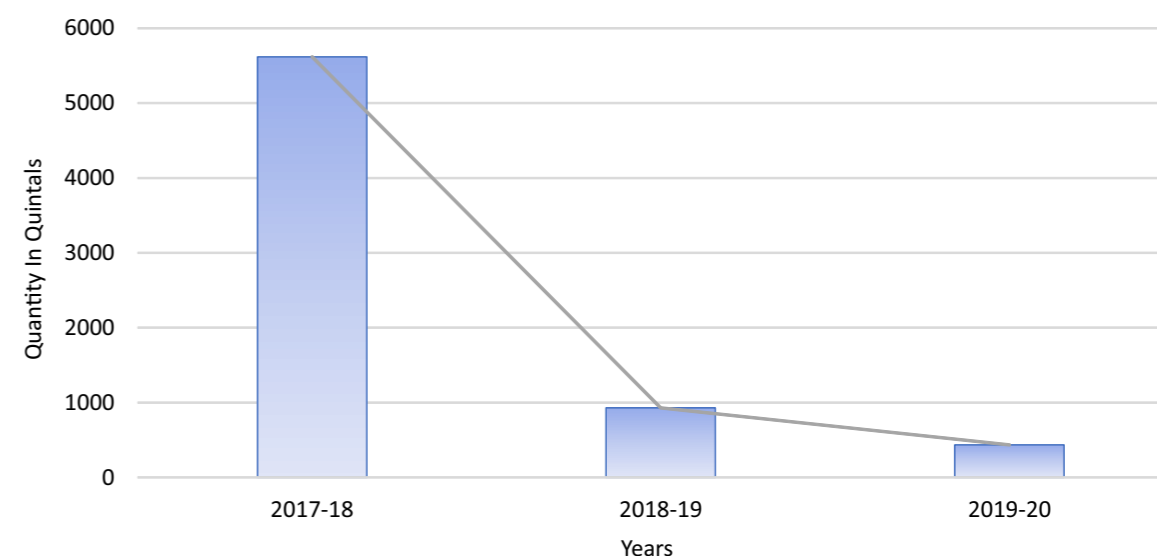
Tendu leaves is also known as Kendu leaves in West Bengal. As per the government records, the production of tendu leaves has seen a sharp decline from 561.6 tonnes in 2017-18 to 93.5 tonnes in 2018-19 and 43.4 tonnes in 2019-20. (Table 1)[89-91]

Table 1. Trends in Production & Revenue generated from Tendu Leaves in West Bengal (2016-17 to 2019-20)

Year	Production (in Quintals)	Revenue Collected (in Lakhs)
2017-18	5616.50	122.192
2018-19	930.5	0.34
2019-20	434	1.302

Source: Forests Dept, West Bengal

Fig 16. Trends in Production from Tendu Leaves in West Bengal



Source: Forests Dept, West Bengal

Tobacco Cultivation

Tobacco Cultivation in West Bengal covers an area of about 15.68 thousand hectares with a production of about 26.65 million tonnes, and a yield of about 1700 kg/ha (2016-17).[75] Cooch Behar, West Midnapore Bankura and Purulia districts of West Bengal is famous for tobacco cultivation.[92,93]

Production and Distribution

A total of 531 Beedi tobacco manufacturers from all 27 districts of West Bengal were identified and have been enlisted with district-wise segregation below:[94]

Murshidabad(144)	South 24 Parganas(11)	Asansol(2)
Kolkata(131)	Hooghly(10)	Darjeeling(2)
North 24 Parganas(37)	Burdwan(9)	Haldia(2)
Howrah(33)	Dakshin Dinajpur(8)	Barasat(1)
Malda(25)	Uttar Dinajpur(8)	Durgapur(1)
Midnapore(25)	Cooch Behar(7)	Kalyani(1)
Nadia(20)	Bankura(5)	Paschim Medinipur(1)
Purulia(19)	Siliguri(5)	Purba Medinipur(1)
Jalpaiguri(14)	Bardhaman(4)	Birbhum(3)

There are 62 beedi exporters in West Bengal in 2023 according to the Ministry of Commerce & Industries.[27]

Labour statistics revealed a total of 1,829,203 registered beedi workers in 2021-22 as per the Annual Report of the Ministry of Labour and Employment, and the state has one of the minimum daily wage rate of INR 126.[29,95] Based on the state of the task, the division of labour or form of employment is divided into four categories in the Beedi industry: (i) Beedi checkers, (ii) Beedi labeller/packers, (iii) helpers, and (iv) Beedi rollers.

A study conducted in Murshidabad district of West Bengal, reported the main causes of rolling Beedi as illiteracy, ignorance, unemployment and underemployment, poverty, debts, insufficient social security, agricultural social structure and a lack of essential facilities and amenities such as an education system and health care. The labourers encounter several issues, including bad working conditions, low salaries, fraudulent contractor acts, health concerns, and so on and some of the most common health issues include TB, skin disorders, cancer, eye difficulties, bronchitis, asthma, throat troubles, respiratory ailments, and piles or discomfort in urinary tracts and so on. Apart from this, women also suffered from gynecological issues and children were born with congenital diseases.[96,97]

In another study conducted in Malda district of West Bengal on women beedi workers reported

the workplaces to be unhygienic, filthy, and congested, with limited access to drinking water, toilets, or first aid. Apart from this, Beedi employees are exposed to smoke vapours throughout their working day, resulting in significant ailments. A study conducted in Purulia district of West Bengal, reported most of the employees experiencing problems in access to sanitary facilities and safe potable water.[98,99]

Although working hours are quite long, 14- 16 hours a day, yet lesser than the minimum wage are paid, and there is little or no awareness of the claims against health insurance, loan allowance, provident fund, and other funds offered by the government that help the Beedi industry workers. In another regional case study, it was found that in West Bengal, the notified wage for beedi rollers is about Rs.190 per 1000 Beedis but workers get paid much less than the specified wage rate of approximately Rs.126 per 1000 Beedis.[100]

Major Beedi Brands

- Alaka Beedi,
- Padma Beedi,
- Goutam Beedi,
- Surya Beedi,
- Mama Beedi,
- Pather Sathi Beedi,
- Modern Beedi,
- Debur Beedi,
- Janapriya Beedi,
- Janata Beedi,
- Robin Beedi,
- Kamal Beedi,
- Barasater Beedi,
- Chanchal Beedi
- Jamai Beedi,
- Dumdum Beedi,
- Tekka Beedi,
- Misti Beedi,
- Rupa Beedi,
- Subol Beedi,
- Smriti Beedi

Beedi Smokers

With a population of approximately 91,276,115, and state prevalence of 14.4% beedi smoking there are 13,143,760 Beedi smokers in the state. Out of these 12,825,673 (27.4%) are males and 355,736 (0.8%) females. 3,112,951(10.7%) Beedi smokers are located in urban areas and 10,260,213 (16.5%) in rural areas. There has been a 1.3 percent decline of Beedi smokers since GATS-I, and the mean initiation age at initiation of tobacco use is 19.4 years amongst the residents with a quit willingness of 57.1 percent.[1]

Recommendations

Recommendations to Ministries

- Beedi workers are often underpaid. The Ministry of Labour & Employment needs to adopt, implement and enforce centralised minimum wage laws, pension and health benefits to ensure that beedi workers receive a uniform and fair compensation for their work.
- Such a form of exploitation creates a cycle which the workers find extremely difficult to cope from, pushing generations into the same profession and highly frequent incidences of child labour.
- Necessary amendments in the Beedi and Cigar Workers (Conditions of Employment) Act, 1966, Child Protection Laws and Labour laws need to be made for a stringent enforcement with clearly defined and harsher penalisation provisions.
- Setting up of accessible, convenient, transparent & efficient grievance redressal mechanism for workers to report low or delay payment and other exploitations.
- It is of utmost importance that the Ministry of Commerce and Industry along with the Ministry of Micro, Small and Medium Enterprises propose to strip the status of beedi industry as a cottage industry and the regulatory and tax relaxation the industry enjoys, considering the heavy toll on health of its consumers and the people involved in the production. Furthermore, beedi packs violate the norms for pictorial health warnings and being largely fragmented and unregulated, give way to illicit product circulation in the market. Implementation of licensing at every stage of beedi manufacturing and selling by the vendors, regulation of production and marketing of beedi will be the key to elimination of such violations resulting in better implementation of control policies.
- The Ministry of Health and Family Welfare must recognise beedi rolling as occupational health hazard due to high and constant nicotine exposure amongst the beedi rollers. The ministry should prioritize health education amongst beedi workers about the health hazards of bidi rolling, smoking and passive smoking through health awareness campaigns, provide of better healthcare services, including screening and treatment for tobacco-related illnesses, through health centers and health camps and encouraging them towards completing their education.
- The Ministry of Skill Development and Entrepreneurship should provide support for vocational rehabilitation to help beedi workers transition to alternative livelihoods, with trainings and education programs, subsidies and infrastructure for new businesses, and job placement services for better income-generation occupations.
- Ministry of Finance should increase the taxes on beedis to discourage smoking and allocate the additional revenue collection to beedi workers for social welfare programs and alternate livelihood.
- Further, it should be ensured that an improved tax administration for limit tax avoidance and higher revenue collection is imposed at the earliest.

- Framework for regulation and tracking of bidi tobacco from cultivation to processing and manufacture of beedi, possibly by inclusion of the beedi tobacco as per the SOP for tobacco auctions under the Tobacco Board of India.

Recommendation to Civil Society

- Civil society organizations can help raise awareness about the health risks of beedi rolling amongst the workers along with their sensitization regarding alternate livelihoods opportunities. This can include organising awareness campaigns, providing information and engaging with the local rural and tribal communities to promote healthy livelihoods.
- Civil Society may contribute to unravelling the illicit networks and trade chain of beedi products and help in evidence generation for policymakers to aid in stricter regulations.
- Organisations working for environment protection should evaluate and document the environmental burden of beedi trade, especially the impact tendu leaf collection has on the forest, and inform the policymakers and other stakeholders
- Organisations aiming for social inclusion and human rights must investigate and expose the exploitative incidents and practices in beedi trade that undermine basic concept of equity.

Recommendations to Academia

- Academicians can conduct operational and exploratory research in various domains such as beedi taxation, brand analysis, compliance with existing laws, vendor density prevalence and illicit trade, which are largely unexplored in the beedi industry. This will help develop effective prevention and cessation strategies as well as to counter the misleading narratives of tobacco industry.
- Agricultural institutions can research the viable crop alternative crops to help beedi farmers to switch from their current jobs.
- Academia may collaborate with government departments and civil society organizations to advocate for tobacco control policies to include beedi at the local, national, and international levels. This can include working with policymakers to conduct research, develop evidence-based policies, design interventions and providing expert testimony and consultations.

References

1. Global Adult Tobacco Survey GATS 2 India 2016-17 [Internet]. Tata Institute of Social Sciences (TISS), Mumbai and Ministry of Health and Family Welfare, Government of India. [cited 2023 May 2]. Available from: <https://ntcp.mohfw.gov.in/assets/document/surveys-reports-publications/Global-Adult-Tobacco-Survey-Second-Round-India-2016-2017.pdf>
2. AGRICULTURAL STATISTICS AT A GLANCE 2021 [Internet]. Directorate of Economics & Statistics, DAC&FW. [cited 2023 May 2]. Available from: [https://eands.dacnet.nic.in/PDF/Agricultural%20Statistics%20at%20a%20Glance%20-%202021%20\(English%20version\).pdf](https://eands.dacnet.nic.in/PDF/Agricultural%20Statistics%20at%20a%20Glance%20-%202021%20(English%20version).pdf)
3. Bidi Tobacco Research Station, Anand [Internet]. Anand Agricultural University. [cited 2023 May 2]. Available from: <http://www.aau.in/college-menu/208/211#:~:text=In%20Gujarat%2C%20tobacco%20is%20cultivated,productivity%20of%201658%20kg%2Fha>.
4. Sun Cured Country Tobacco (Kurnool and Telangana) [Internet]. Tobacco Board. The Ministry of Commerce and Industry, Dept. of Commerce, Govt. of India; [cited 2023 May 2]. Available from: <https://tobaccoboard.com/tsc.php>
5. The tendu leaf [Internet]. India Environmental Portal. Centre for Science and Environment (CSE), National Knowledge Commission (NKC), Govt. of India; 2003 [cited 2023 May 2]. Available from: <http://www.indiaenvironmentportal.org.in/content/9732/the-tendu-leaf/>
6. CABI [Internet]. [cited 19 June 2022]. Available from: <https://www.cabi.org/isc/abstract/19940602809>
7. M.P. Tendu Patta (Vyapar Viniyaman) Adhiniyam, 1964 [Internet]. Bare Acts Live. [cited 2023 May 2]. Available from: <http://www.bareactslive.com/MP/MP759.HTM>
8. Awasthi A K, Pandey R P. The old and new tendu patta policy: an evaluation. *Journal of Tropical Forestry*. 1992; 8(2): 183-186
9. Guleria, C, Gautam, K, Gupta H, Choudhary, S. NTFPs a key Tribal Livelihood Source: a Case of Tendu Leaves. *Agriculture & Environment*. 2021; 2:7. Available from: https://www.researchgate.net/profile/Kamini-Gautam-3/publication/352904181_NTFPs_a_key_Tribal_Livelihood_Source_a_Case_of_Tendu_Leaves/links/60df115fa6fdccb745fc93ce/NTFPs-a-key-Tribal-Livelihood-Source-a-Case-of-Tendu-Leaves.pdf
10. Sharma UK. TENDU LEAVES: Trade and management practices in India [Internet]. INDIRA GANDHINATIONAL FOREST ACADEMY, DEHRADUN; Available from: <https://www.ignfa.gov.in/document/biodiversity-cell-ntfp-related-issues15.pdf>
11. Mandvi Singh, Prerna Sah, Praveen Kumar. "Forest fires and tendu leaf collection in India: An evidence-based analysis". iForest, New Delhi. 2023.
12. Tobacco in Indian Economy. [Internet]. CTRI ICAR-Central Tobacco Research Institute. [cited 2023 May 2]. Available at: https://ctri.icar.gov.in/for_tobaccoEconomy.php
13. LIST OF RELEASED / IDENTIFIED VARIETIES OF VARIOUS TOBACCO TYPES FOR CULTIVATION IN INDIA [online]. CTRI-ICAR. [cited 2023 May 2]. Available at: <https://ctri.icar.gov.in/files/varieties.pdf>
14. Annual Report 2021-22. Ministry of Labour and Employment, Govt of India. [cited 2023 May 2]. Available from: https://labour.gov.in/sites/default/files/annual_report-21-22.pdf
15. Annual Report 2020-21 [Internet]. DPIIT. Ministry of Commerce and Industry Department for Promotion of Industry & Internal Trade. Govt. of India. [cited 2023 May 2]. Available from: <https://dpiit.gov.in/sites/default/files/annualReport-English2020-21.pdf>
16. Arora M, Datta P, Barman A, Sinha P, Munish VG, Bahl D, et al. The Indian Bidi Industry: Trends in Employment and Wage Differentials. *Frontiers in Public Health*. 2020;8. <https://www.frontiersin.org/articles/10.3389/fpubh.2020.572638/full>
17. Lal P. Estimating the size of tendu leaf and bidi trade using a simple back-of-the-envelope method. *Ambio*. 2012 May;41(3):315-8. doi: 10.1007/s13280-011-0181-1. Epub 2011 Oct 4. PMID: 22535431; PMCID: PMC3357852.
18. Patel R. Letter to WHO Tobacco Free Initiative on Framework Convention on Tobacco Control. All India Bidi Industry Federation; 2000. Available from: <https://www.yumpu.com/en/document/read/12203905/all-india-bidi-industry-federation-world-health-organization>
19. Sunley EM. India: The tax treatment of bidis [Internet]. International Union Against Tuberculosis and Lung Disease (The Union). 2008. Available from: https://www.tobaccofreekids.org/assets/global/pdfs/reports_articles/Sunley-BidiTax%20FINAL-5Feb08.pdf
20. Indian production of Tobacco [Internet]. APEDA agrixchange. [cited 21 June 2022]. Available from: https://agriexchange.apeda.gov.in/india%20production/AgriIndia_Productions.aspx?productcode=1001
21. VG. ANDHRA PRADESH-Tendu Leaf Labourers in Telangana-Working Conditions and Struggles. *Economic & Political Weekly* [Internet]. 1984 Nov 17 [cited 2023 May 2];19(46). Available from: <https://www.epw.in/journal/1984/46/our-correspondent-columns/andhra-pradesh-tendu-leaf-labourers-telangana-working>
22. <https://www.ignfa.gov.in/document/biodiversity-cell-ntfp-related-issues15.pdf>

23. Sharma UK. TENDU LEAVES: Trade and management practices in India [Internet]. INDIRA GANDHI NATIONAL FOREST ACADEMY, DEHRADUN;. Available from: <https://www.ignfa.gov.in/document/biodiversity-cell-ntfp-related-issues15.pdf>
24. Tobacco Manufacturing Companies in Andhra Pradesh [Internet]. Dun & Bradstreet. [cited 2023 May 2]. Available from: https://www.dnb.com/business-directory/company-information.tobacco_manufacturing.in.andhra_pradesh.guntur.html
25. Annual Report: Ministry of Labour and Employment, Government of India. [cited 2023 May 2]. Available from: https://labour.gov.in/sites/default/files/annual_report-21-22.pdf
26. Minimum Wage Check [Internet]. Wage indicator subsite collection. 2022. [cited 2023 May 2]. Available from: <https://paycheck.in/salary/minimumwages/13970-andhra-pradesh/35825-tobacco-excl-beedi-making-manufactory>
27. Minimum Daily Wage Rate: Andhra Pradesh: Tobacco, Bidi Making, Cigar Industry [Internet]. CEIC Data. CEIC [cited 2023 May 2]. Available from: <https://www.ceicdata.com/datapage/en/india/minimum-daily-wage-rate-andhra-pradesh/minimum-daily-wage-rate-andhra-pradesh-tobacco-bidi-making-cigar-industry>
28. EXPORTER OF TOBACCO PRODUCTS 2023 [Internet]. Tobacco Board: Guntur. [cited 2023 May 2]. Available from: <https://tobaccoboard.com/tbdata/pdf/Products.pdf>
29. Hills J. Problems And Prospects Of Women Beedi Workers: A Case Study Of Mustabad, Andhra Pradesh. Semantic Scholar. 2013. Available from: <https://www.semantic-scholar.org/paper/PROBLEMS-AND-PROSPECTS-OF-WOMEN-BEEDI-WORKERS%3A-A-OF-Hills/c19217de1bd92158a58e8719ea897bc277d0e1e5>
30. Painoli GK, Losarwar SG. A study of various HRM Issues in beedi industry situated in Nizamabad District of Andhra Pradesh. Voice of Research. 2012; 2(6): 1-6. Available from: http://www.voiceofresearch.org/doc/V1_I2/V1_I2_12.pdf
31. Virk A. Bihar's Tobacco Farmers Hit by Taboo and Deficient Monsoon [Internet]. The Quint. 2018 [cited 2023 May 2]. Available from: <https://www.thequint.com/news/politics/bihars-tobacco-farmers-hit-by-taboo-and-deficient-monsoon#:~:text=ensure%20smooth%20polling.,Bihar%20is%20the%20sixth%20largest%20tobacco%20producing%20state%20in%20the,%2C%20Muzaffarpur%2C%20Darbhanga%20and%20Sitamarhi.&text=After%20the%20plant%20grows%2C%20it's,Pradesh%2C%20Jharkhand%20and%20Madhya%20Pradesh>
32. Ignfa.gov.in [Internet]. 2022 [cited 25 June 2022]. Available from: <https://www.ignfa.gov.in/document/biodiversity-cell-ntfp-related-issues15.pdf>
33. Crop Production Statistics for Selected States, Crops and Range of Year [Internet]. Area

- and Production Statistics, Ministry of Agriculture and Farmers Welfare. [cited 21 June 2022]. Available from: https://aps.dac.gov.in/APY/Public_Report1.aspx
34. Bidi Manufacturers in Patna [online]. Justdial. [cited on 21 June 2022]. Available from: <https://www.justdial.com/Patna/Bidi-Manufacturers/nct-10045630>
35. Annual Report 2021-22. Ministry of Labour & Employment, Govt. of India. [cited 21 June 2022]. Available from: https://labour.gov.in/sites/default/files/annual_report-21-22.pdf
36. Minimum Daily Wage Rate: Bihar: Tobacco, Bidi Making, Cigar Industry [Internet]. CEIC Data. CEIC 2022 [cited 29 June 2022]. Available from: <https://www.ceicdata.com/en/india/minimum-daily-wage-rate-bihar/minimum-daily-wage-rate-bihar-tobacco-bidi-making-cigar-industry>
37. Yasmin S, Afroz B, Hyat B, D'Souza D. Occupational health hazards in women beedi rollers in Bihar, India. Bulletin of environmental contamination and toxicology. 2010;85(1):87-91.
38. Trade of Specified Minor Forest Produce - Tendu Leaves [Internet]. Chhattisgarh State Minor Forest Produce (Trading & Development) Co-operative Federation Limited. [cited 21 June 2022]. Available at: https://www.cgmpfed.org/new/tradeofNWFP_Tendu.php
39. Administrative Report Year 2020-21 [Internet]. Forest and Climate Change Department, Chhattisgarh Government. [cited 2 September 2022]. Available from: https://www.cgmpfed.org/new/administrative_report/2020-21.pdf
40. Tobacco Manufacturing Companies in Chhattisgarh, India [Internet]. Dun & Bradstreet. [cited 9 June 2022]. Available from: https://www.dnb.com/business-directory/company-information.tobacco_manufacturing.in.chhattisgarh.html?page=2
41. Sharma S. Chhattisgarh Tendu Leaf Pluckers Caught Between Corruption and Cartelisation [Internet]. NewsClick 2018 [cited 22 June 2022]. Available from: <https://www.newsclick.in/chhattisgarh-tendu-leaf-pluckers-caught-between-corruption-and-cartelisation>
42. Das R. Rolling bidis is child's play in this Chhattisgarh village [Internet]. Business Standard 2014 [cited 22 June 2022]. Available from: https://www.business-standard.com/article/economy-policy/rolling-bidis-is-child-s-play-in-this-chhattisgarh-village-114102200011_1.html
43. Jain B. Centre, states join hands to rehabilitate Naxals [Internet]. The Economic Times. 2002 [cited 22 June 2022]. Available from: <https://economictimes.indiatimes.com/centre-states-join-hands-to-rehabilitate-naxals/articleshow/29394966.cms?from=mdr>
44. Gupta R. Chhattisgarh: Rapid Industrialisation Threatens Tribal Livelihood [Internet].

- Video volunteers. 2016 [cited 22 June 2022]. Available from: <https://www.videovolunteers.org/chhattisgarh-rapid-industrialisation-threatens-tribal-livelihood/>
45. Tendu Patta [Internet]. Minor Forest Produce. [cited 22 June 2022]. Available from: <http://www.mfpfederation.org/content/tendupatta.html#:~:text=Madhya%20Pradesh%20is%20the%20biggest,Leaves%20production%20of%20the%20country>
 46. Tobacco Manufacturing Companies in Madhya Pradesh, India [Internet]. Dun & Bradstreet [cited 22 June 2022]. Available from: https://www.dnb.com/business-directory/company-information.tobacco_manufacturing.in.madhya_pradesh.html
 47. Minimum Wage and Dearness Allowance rates effective from 01/04/2022, DEPARTMENT OF LABOUR - MP [Internet]. Labour.mp.gov.in. 2022 [cited 22 June 2022]. Available from: <http://www.labour.mp.gov.in/KnowledgeSharing/Public/AllDocuments.aspx?DT=3&OrgID=1>
 48. Pratap S. CURRENT TRENDS IN CHILD LABOUR: A Case Study of Beedi Industry in Tikamgarh, M.P. [Internet]. CEC Working Paper. Centre for Education and Communication. 2001. [cited 22 June 2022]. Available from: <http://www.cec-india.org/libpdf/1437467984Child-Labour-in-Bidi-Industries-MP,-2001.pdf>
 49. Collective Bargaining by Workers of the Indian Unorganized Sector: Struggle, Process, Achievements, and Learning. Indian Sector for Self-Employed Women [Internet]. WEIGO.2012 [cited 22 June 2022]. Available from: <https://www.wiego.org/sites/default/files/resources/files/Collective-Bargaining-%20India.pdf>
 50. Saini RS. Study: BEEDI INDUSTRY-WORKING FOR SOLUTIONS. PRIA. 2001 [cited 22 June 2022]. Available from [https://pria-academy.org/pdf/OHS/Unit%203_Case%20Studies%20\(2\).pdf](https://pria-academy.org/pdf/OHS/Unit%203_Case%20Studies%20(2).pdf)
 51. Yechury A. Anti-Tobacco Activists in MP push for maximum tax for Bidi under GST [Internet]. News18. 2017 [cited 22 June 2022]. Available from: <https://www.news18.com/news/india/anti-tobacco-activists-in-mp-push-for-maximum-tax-for-bidi-under-gst-1404253.html>
 52. Tender Notice Inviting Offers for Permission To Collect And Remove Tendu Leaves For 2021 Season. (E-Tendering for Non-Scheduled Areas-4th Round) [Internet]. Revenue and Forest Department, Govt. of Maharashtra. 2021 [cited 22 June 2022]. Available from: [https://mahaforest.gov.in/writereaddata/fckimagefile/Tender%20Notice%202021%20Season%20\(Non-Pesa\)-4th%20%20Round.pdf](https://mahaforest.gov.in/writereaddata/fckimagefile/Tender%20Notice%202021%20Season%20(Non-Pesa)-4th%20%20Round.pdf)
 53. Research Tobacco Manufacturing Companies in Maharashtra [Internet]. Dun & Bradstreet. [cited 9 June 2022]. Available from: https://www.dnb.com/business-directory/company-information.tobacco_manufacturing.in.maharashtra.html?page=3
 54. Minimum Daily Wage Rate: Maharashtra: Tobacco, Bidi Making, Cigar Industry[Internet]. CEIC Data. CEIC 2022. [cited 21 June 2022]. Available from: <https://www.ceicdata.com/en/india/minimum-daily-wage-rate-maharashtra/minimum-daily-wage-rate-maharashtra-tobacco-bidi-making-cigar-industry>
 55. Supase AS, Oswal K, Mukherjee K, Singh A, Chaturvedi P. Alternative livelihood for bidi workers: a study based on primary research on home-based bidi rollers of Solapur city of Maharashtra. International Journal of Community Medicine and Public Health. 2020;7(11):4402
 56. Palande P. A Study on Socio-Economic and Health Problems of Women Beedi Rollers in Sangamner and Akole Blocks of Ahmednagar District. Tilak Maharashtra Vidyapeeth Pune [internet]; 2019 [cited 13 June 2022]. Available from: <http://210.212.169.38/xmlui/bitstream/handle/123456789/8409/Thesis&hx0025;20&hx0025;28P-814&hx0025;29.pdf?sequence=1&isAllowed=y>
 57. Nimbale S, Zombade D. A Study on Sustainability of Beedi Women Workers and Beedi Business: Special Case to Solapur City, Maharashtra. IJARIE. 2021 [cited 13 June 2022];7(4):1387-1392. Available from: https://ijarie.com/AdminUploadPdf/A_Study_on_Sustainability_of_Beedi_Women_Workers_and_Beedi_Business__Special_Case_to_Solapur_City__Maharashtra_ijarie15070.pdf
 58. Jadhav R. Why bidi rollers are the most eligible brides in Solapur [Internet]. The Times of India. 2018 [cited 13 June 2022];. Available from: <https://timesofindia.indiatimes.com/india/why-bidi-rollers-are-the-most-eligible-brides-in-solapur/articleshow/63163075.cms>
 59. Management of Tendu Patta produce [Internet]. Forest Department, Government of Rajasthan. [cited 13 June 2022]. Available from: <https://forest.rajasthan.gov.in/content/raj/forest/en/aboutus/departmental-wings/n-t-f-p1/management-of-tendu-patta-produce.html>
 60. Agriculture Statistics at a Glance 2018-19 [Internet]. Agriculture Department, Government of Rajasthan. [cited 13 June 2022]. Available from: http://www.agriculture.rajasthan.gov.in/content/dam/agriculture/Agriculture%20Department/agriculturalstatistics/rajasthan_agriculture_statistics_at_a_glance_2018-19.pdf
 61. Tobacco Manufacturing Companies [Internet]. Dun & Bradstreet. [cited 9 June 2022]. Available from: https://www.dnb.com/business-directory/industry-analysis.tobacco_manufacturing.html

62. Tobacco Manufacturers in Rajasthan – Wholesaler [Internet]. Dial4trade [cited 9 June 2022]. Available from: <https://www.dial4trade.com/rajasthan/tobacco.htm>
63. Jha P, Guindon E, Joseph RA, Nandi A, John RM et al. A rational taxation system of bidis and cigarettes to reduce smoking deaths in India. *Econ Polit Wkly*. 2011; 42:44-51
64. Rajasthan में महंगे होंगे Tobacco Products, सरकार लगाने जा रही Traffic charges [Internet]. Zee News. 2021 [cited 11 June 2022]. Available from: <https://zeenews.india.com/hindi/india/rajasthan-revenue-increase-during-lockdown-tobacco-products-price-hike/906963>
65. Rajasthan government cuts tax on tobacco, its products by 20-30% [Internet]. The Economic Times. 2015 [cited 11 June 2022]. Available from: <https://economictimes.indiatimes.com/industry/cons-products/tobacco/rajasthan-government-cuts-tax-on-tobacco-its-products-by-20-30/articleshow/47696075.cms?from=mdr>
66. Rajasthan plans alternate livelihood for bidi workers. [Internet]. The Times of India. 2022 [cited 11 June 2022]. Available from: <https://timesofindia.indiatimes.com/city/jaipur/rajasthan-plans-alternate-livelihood-for-bidi-workers/articleshow/17343242.cms>
67. Study Material for The Webinar on Sensitization of Judicial Officers on The Effective Implementation of The Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003 [Internet]. The Rajasthan State Judicial Academy, Jodhpur (Rajasthan) [cited 11 June 2022]. Available from: <https://rajasthanjudicialacademy.nic.in/docs/studyMaterial30012021.pdf>
68. Welding K, Iacobelli M, Saraf S, Smith KC, Puntambekar N, Gupta PC, Cohen JE. The Market for Bidis, Smokeless Tobacco, and Cigarettes in India: Evidence from Semi-Urban and Rural Areas in Five States. *International Journal of Public Health*. 2021;66
69. Tobacco Manufacturing Companies [Internet]. Dun & Bradstreet. [cited 22 June 2022]. Available from: https://www.dnb.com/business-directory/company-information.tobacco_manufacturing.in.tamil_nadu.tirunelveli.html
70. Alamelumangai S. A Survey on Health status of Women Beedi Workers in Mukkudal [Internet]. Manonmaniam Sundaranar University School of Education, Tamil Nadu [cited 22 June 2022]. Available from: https://nmtt.inflibnet.ac.in/Uploads/Activities/PMMNMTT-2019-100093_20210303125041.pdf
71. Kumar Nakkeeran S, Bharathi S. A study on occupational health hazards among women beedi rollers in Tamilnadu, India. *International Journal of current research*. 2010;11(1):117-22. Available from: https://www.researchgate.net/publication/48375862_A_study_on_occupational_health_hazards_among_women_bee

- di_rollers_in_Tamilnadu_India
72. Telangana Forest Management Information System [Internet]. TELANGANA FOREST DEPARTMENT. [cited 25 June 2022]. Available from: <https://fmis.telangana.gov.in/BLMIS/BlmisHome.aspx&source=gmail&ust=1656228411953000&usg=AOvVaw0HJk1jqZJnxgVvwZAzqing>
73. Tobacco Manufacturing Companies in Telangana [Internet]. Dun & Bradstreet. [cited 9 June 2022]. Available from: https://www.dnb.com/business-directory/company-information.tobacco_manufacturing.in.telangana.html?page=3
74. Minimum Wage – Tobacco (including beedi making) manufactory [Internet]. Paycheck.in [cited 23 June 2022]. Available from: <https://paycheck.in/salary/minimumwages/21802-telangana/37710-tobacco-including-beedi-making-manufactory>
75. Jamuna V. Socio-Economic Status of Women Bidi Workers in Karimnagar Telangana. *IJTSRD*. 2018;3. Available from: <https://www.ipindexing.com/journal-article-file/13128/Socioeconomicstatusofwomenbidiworkersinkarimnagartelangana>
76. Jamuna V. Socio-Economic Status of Women Bidi Workers in Karimnagar Telangana. *IJTSRD*. Vol-3. 2018. [cited 22 June 2022]. Available from: <https://www.ipindexing.com/journal-article-file/13128/Socioeconomicstatusofwomenbidiworkersinkarimnagartelangana>
77. Kawale SN, Shinde MA, Shinde PS. Cross-sectional study of health problems in female bidi rollers in Telangana, India. *International Journal of Public health*. 2019; 6:6. Available from: https://www.researchgate.net/profile/Suchita-Kawale/publication/339657087_Cross_sectional_study_of_health_problems_in_female_bidi_rollers_in_Telangana_India/links/6219c013579f1c04171a2a25/Cross-sectional-study-of-health-problems-in-female-bidi-rollers-in-Telangana-India.pdf
78. Joshi KP, Robins M, Parashramlu V, Mallikarjunaih KM. An epidemiological study of occupational health hazards among bidi workers of Amarchinta, Andhra Pradesh. *Cough (bronchitis)*. *J. Acad. Indus. Res.* 2013; 1:9. Available from: <http://www.jairjp.com/FEBRUARY%202013/11%20JOSHI.pdf>
79. Production and Sales Summary [Internet]. UP Forest Corporation [cited 22 June 2022]. Available from: <https://upforestcorporation.co.in/Production-and-Sales-Summary>
80. Singh A. उत्तरप्रदेश और झारखंड से हो रही तेंदूपत्ता की तस्करी, जानें क्या है वजह [Internet]. *Dainik Jagran*. 2020 [cited 22 June 2022]. Available from: <https://www.jagran.com/news/national-smuggling-of-tendu-leaves-from-uttar-pradesh-and-jharkhand-what-is-the-reason-20305210.html>

81. Agricultural Statistics at a Glance 2018 [Internet]. Government of India, Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare, Directorate of Economics and Statistics [cited 22 June 2022]. Available from: <https://agricoop.gov.in/sites/default/files/agristatglance2018.pdf>
82. Tobacco Manufacturing Companies in Uttar Pradesh, India [Internet]. Dun & Bradstreet [cited 22 June 2022]. Available from: https://www.dnb.com/business-directory/company-information.tobacco_manufacturing.in.uttar_pradesh.html?page=5
83. Minimum Daily Wage Rate: Uttar Pradesh: Tobacco, Bidi Making, Cigar Industry [Internet]. CEIC Data. CEIC [cited 22 June 2022]. Available from: <https://www.ceicdata.com/en/india/minimum-daily-wage-rate-uttar-pradesh/minimum-daily-wage-rate-uttar-pradesh-tobacco-bidi-making-cigar-industry>
84. Raju S. Uttar Pradesh trader's tobacco-free organic beedi in great demand overseas [Internet]. Hindustan Times. 2020 [cited 22 June 2022]. Available from: <https://www.hindustantimes.com/india-news/uttar-pradesh-trader-s-tobacco-free-organic-beedi-in-great-demand-overseas/story-7yExZCcp2YxZhji4fTLUiP.html>
85. Ansari MS, Raj A. Socio-economic status of women Beedi workers in Bundelkhand region of Uttar Pradesh: An empirical analysis. *UTMS Journal of Economics*. 2015;6(1):53-66. Available from: https://www.utmsjoe.mk/files/Vol.%206%20No.%201/6-1-4-UTMS_Journal_of_Economics.pdf
86. Mishra AK, Mishra AK. A Study on the Socio-Economic State of Female Beedi Worker at Karchhna, Allahabad, Uttar Pradesh. *International Journal of Social Science and Humanities Research*. 2015 Apr;3(2):86-90. Available from: https://www.researchgate.net/publication/325264849_A_study_on_the_Socio-Economic_State_of_Female_Beedi_Worker_at_KarchhanaAllahabad_Uttar_Pradesh
87. Majumdar B, Patel J. Livelihood Security of Home-based Beedi-rolling Workers in Uttar Pradesh. *Economic and Political Weekly*. 2017; 52:14. Available from: <https://www.epw.in/journal/2017/14/notes/livelihood-security-home-based-beedi-rolling-workers-uttar-pradesh.html>
88. Khanam Z, Anjum R. Female Beedi Workers and their Socio-Economic and Health Conditions; A Case Study of Sandila (Hardoi, UP). *International Research Journal of Education and Technology*. 2021; 1:5. Available from: <https://www.irjweb.com/V1I5IRJET-14.pdf>
89. Annual Administrative Report 2019-20 [Internet]. Department of Forests, Government of West Bengal. [cited June 2022]. Available from: <http://www.westbengalforest.gov.in/upload/publication/AAR-2019-20.pdf>

90. Annual Administrative Report 2018-19 [Internet]. Department of Forests, Government of West Bengal. [cited June 2022]. Available from: <http://www.westbengalforest.gov.in/upload/publication/pub1.pdf>
91. Annual Administrative Report 2017-18 [Internet]. Department of Forests, Government of West Bengal. [cited June 2022]. Available from: http://www.westbengalforest.gov.in/upload/publication/aa_2016_2017.pdf
92. District Wise Crop Production in West Bengal: Major Crops in West Bengal [Internet]. Agri Farming. [cited 20 June 2022]. Available from: <https://www.agrifarming.in/district-wise-crop-production-in-west-bengal-major-crops-in-west-bengal>
93. WB Govt okays social security scheme for Kendu leaf collectors [Internet]. Business Standard. 2015 [cited 20 June 2022]. Available from: https://www.business-standard.com/article/pti-stories/wb-govt-okays-social-security-scheme-for-kendu-leaf-collectors-115061201277_1.html
94. Tobacco Manufacturing Companies [Internet]. Dun & Bradstreet. 2022. Cited 9 June 2022. Available from: https://www.dnb.com/business-directory/industry-analysis.tobacco_manufacturing.html
95. Gupta K. Collective Bargaining and Negotiation Skills [Internet]. DCAC DU [cited 20 June 2022]. Available from: <http://dcac.du.ac.in/documents/E-Resource/2020/Metrial/17kiran2.pdf>
96. Poulomi B, Iti N. Beedi Industry in Murshidabad District of West Bengal: An Empirical Study. *Business Studies*. 2018; 39(1&2): 125-138. Available from: <https://www.caluniv.ac.in/dj/BS-Journal/v-39/Beedi-Industry.pdf>
97. Jahangir S. Life worlds of the bidi workers in Murshidabad district of West Bengal: A qualitative assessment. *International Journal of Innovative Studies in Sociology and Humanities*. 2018; 3(6). Available from: <https://ijissh.org/storage/Volume3/Issue6/IJISSH-030604.pdf>
98. Hoque MA. Socio-Economic Status and Health Risks among the Female Bidi Workers: A Case Study [Internet]. ResearchGate. 2018 [cited 20 June 2022]. Available from: https://www.researchgate.net/publication/331653015_Socio-Economic_Status_and_Health_Risks_among_the_Female_Bidi_Workers_A_Case_Study
99. Adhikary M, Hajra C. Health Expenditure of Home Based Worker & Access to Usable Water & Sanitation: A Case Study of Bidi workers in Purulia of West Bengal. *Saudi Journal of Humanities and Social Sciences*. 2016;1(4):160-71
100. Gupta K. Collective Bargaining and Negotiation Skills [Internet]. Available from: <http://dcac.du.ac.in/documents/E-Resource/2020/Metrial/17kiran2.pdf>

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Fig 18.	Trends in Annual production of Tendu Patta in West Bengal

Annexure: List of Beedi Brands

Bidi Brand Name

Assam

Raja biri	Sheik Nasiruddin bidi	Mother India bidi
Lucky Bidi	Sankh Bidi	Mann Biri

Bihar

Gulaab Mark Bidi

Chhattisgarh

Ram Bidi	Soldier Bidi	No. 28 Sadhna Bidi
Jayanti Bidi	Meghana Biri	Bharat Biri
Meghana Bidi 78.2	Bangali Bidi	30 No. Bidi
Meghna Bidi	Mangal Ganesh Bidi	Meghana bidi(blue)
Meghana bidi (red)	Sadhana bidi	Soldier Bidi
Jayanti bidi	Bharat biri	Bangali Bidi
Super Jayanti Biri	30 chhap bidi	Pataka bidi (502)
Appu biri	Manglur ganesh bidi 501	Meghana bidi (1minute)
501 Bidi	Gola bidi	Thirty Brand Bidi
Meghana Bidi	Kake Bidi	

Gujarat

Sayana Super Bidi	Desai Bidi	Jasvant Chhap Bidi
Charbhai Bidi	Special	Saina
Officer	Ganesh 501	Saina Small
Desai small	Sambhaji	Sable Bidi
Jaswant Chhap Bidi		

Haryana

Kisan Bidi No. 51

Jammu and Kashmir

Tofa bidi	Noor Bidi
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Jharkhand

Tulsi	Meghana Bidi	Idris
Shakti	Banka	Tripura
Hari Mohan Bidi	Lisha Bidi	Pravat Bidi
Sikha Bidi	Mukta Gold Bidi	Gomati Bidi
Bandana Bidi	Nasir Bidi	Sahara India Bidi
Charminar		

Karnataka

Player's	Mangalore Ganesh Bidi	S.K.Beedies
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Uttar Pradesh

Rampyare bidi	Speshal bidi	Panchhi bidi
Seema bidi	Panjab Mel	Tufan Mel
Royal bidi	Mahananda 902	Chaman Gold
Howrah biri	447 biri	120 buniyad Beedi
Suraj Bidi -Front	Three star Bidi Front	Kisan Filter Bidi
Parasnath Bidi Front	Special Farmaish Bidi N0-20	Bidi Fatehpur Front
Shyam Bidi	Jeet Bidi 702	Milan Bidi

Madhya Pradesh

Special Telephone Bidi	Kittu Bangali Bidi	New Culcutta Bidi No. 20
Special Bidi No.7	Tractor Chhap Bidi No.11	Konbrda Bidi
Ganga Jamuna	Murga Chhap	Specal Sher Bidi
Manohar	Kanta Chhap	Sikka
77 No.		

Rajasthan

Telephone Bidi (Special Bidi)	O2 Bidi	Desai Bidi
30 Chaap Bidi	Tara Chaap Bidi	

Uttarakhand

Majdur 444 Fliter

West Bengal

Alaka Bidi	Debur Bidi	Jamai Bidi
Padma Bidi	Janapriya Bidi	Dumdum Bidi
Goutam Bidi	Janata Bidi	Tekka Bidi
Surya Bidi	Robin Bidi	Misti Bidi
Mama Bidi	Kamal Bidi	Rupa Bidi
Pather Sathi Bidi	Barasater Subol bidi Bidi	Modern Bidi
Chanchal Bidi	Smriti Bidi	

Punjab

Kishan	Sunder	Dollar Filter bidi
Noor Bidi		

Kerala

Ajith Biri	Minikkutty Bidi Small	Minikkutty Bidi Large
Onam Diamond Bidi	Amrutha Bidi	Kutty Bengali Bidi
Himalaya Bidi	Babu Bidi	

Tamil Nadu

Kaja Bidi

