



# An Analysis of the Growth of the Kosa Silk Industry in the State of Chhattisgarh

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## Abstract

This study examines the growth and development of the Kosa silk industry in Chhattisgarh, India. Kosa silk or Tussar silk is a traditional fabric with cultural significance in the region. This paper analyses production trends, economic impact, and challenges faced by the industry over the past decade. Our findings suggest that while production has increased, several barriers remain to achieving the industry's full potential. The data from the Chhattisgarh Economic Survey from 2015 to 2024 has been taken. Finding- Cocoon and fabric production levels have increased by 48% from 2015 to 2024. Total industry revenue rose from ₹85 crore to ₹160 crore (88.24%), while export revenue skyrocketed by 233.33%, from ₹12 crore to ₹40 crore, reflecting the demand for Chhattisgarh's Kosa silk. The sector provides around 35,000 direct jobs, with women comprising 65% of the workforce. Government initiatives have played a key role in supporting artisans and promoting sustainable practices.

**Keyword:** Kosa silk Industry, production, Chhattisgarh State, growth, government initiatives

## Introduction

Chhattisgarh, a state in central India, has a rich tradition of handloom and handicrafts. Among these, Kosa silk holds a special place in the cultural and economic landscape of the region. Produced from wild silkworms that feed on Terminalia trees, Kosa silk is known for its natural golden sheen and durability.

The industry provides a livelihood to thousands of tribal families, particularly in districts like Bastar, Raigarh, and Bilaspur. Traditional knowledge passed down through generations has been preserved while adapting to modern market demands.

## Historical Context

The tradition of Kosa silk weaving in Chhattisgarh dates back several centuries. When Chhattisgarh was formed as a separate state in 2000, the government identified Kosa silk as a potential sector for the economic development of tribal communities.

Before 2000, the industry operated mostly at a subsistence level with limited market reach. Production was small-scale, and marketing was restricted to local areas. The formation of Chhattisgarh state marked a turning point, with focused attention on developing this traditional craft into a viable industry.

## Review of Literature

- Joshi and Kumar (2023) explored innovations in dyeing techniques for Kosa silk, comparing traditional natural dyes with modern eco-friendly synthetic alternatives. Their experimental research demonstrated that certain modified natural dyes offered comparable color fastness to synthetic dyes while reducing water consumption by 30%, suggesting a potential middle path between tradition and innovation.
- Patel and Das (2022) examined the economic contribution of the silk sector to Chhattisgarh's economy, estimating that it accounts for approximately 2.3% of the state's handicraft GDP. Their research also identified significant regional clustering, with 65% of production concentrated in Raigarh, Bilaspur, and Bastar districts. This geographic concentration has enabled knowledge sharing but also created challenges in expanding production to other suitable regions.
- Sharma (2020). The economic landscape of Kosa silk production has been extensively studied. conducted a comprehensive analysis of the silk value chain in Chhattisgarh, identifying six distinct stages: cocoon rearing, yarn extraction, yarn processing, weaving, finishing, and marketing. The study highlighted the fragmented nature of the industry with limited vertical integration, noting that approximately 72% of producers operate as individual households rather than organized cooperatives.
- Guha and Sen (2021) documented how Kosa silk holds significant cultural importance in Chhattisgarh, being used in religious ceremonies, weddings, and important social gatherings. Their ethnographic study across three districts revealed that Kosa

silk weaving is not merely an economic activity but a cultural practice deeply embedded in the social fabric of tribal communities, particularly among the Dewangan and Sahu communities.

### Objective of the research

This study has the following objectives:

1. To evaluate the growth of Kosa silk production from 2015 to 2024.
2. To identify the factors that have contributed to this growth, with particular emphasis on government programs and the special tag received in 2018.
3. To illustrate the Employment Distribution in the Kosa Silk Industry's impact on job creation and income enhancement for local communities.
4. To identify challenges hindering further growth in the sector.
5. To suggest practical ways to help the industry grow while protecting traditional skills.

### Research methodology

- This research is a Descriptive type of research.
- The types of data used in this research include secondary data, specifically referencing the following documents: the annual reports of the Chhattisgarh Handloom Development Corporation (2015-2024), the Ministry of Textiles' 2023 Silk Industry Overview, the 2024 State Economic Survey for Chhattisgarh, findings from the Tribal Development Research Institute (2022), and data from the Export Promotion Council for Handicrafts (2023).
- In this Research, the research tools encompass a variety of analytical methods, such as calculating means, assessing growth rates, and utilizing visual representations on bar graphs and charts.

### Limitations of research-

1. This research is limited to the study related to silk production in the state of Chhattisgarh.
2. In this research, data from the Chhattisgarh Economic Survey from 2015 to 2024 have been taken.
3. Due to the limited period, it was difficult to study the entire area of the silk industry.

### ANALYSIS OF THE OBJECTIVE AND FINDINGS

**Objective:** 1. To evaluate the growth of Kosa silk production from 2015 to 2024.

#### **Production Trends: Raw Material Production**

The production of Kosa cocoons has shown steady growth over the past decade. From approximately 320 metric tons in 2015, production increased to about 475 metric tons by 2024. This represents a growth rate of nearly 48% over a nine-year period.

#### **Finished Goods Production**

The production of finished Kosa silk fabrics has similarly increased. Annual production volume rose from approximately 1.2 million meters in 2015 to 1.8 million meters in 2024, showing a growth of 50%.

#### **Comprehensive Data Analysis of Kosa Silk Industry in Chhattisgarh (2015-2024)**

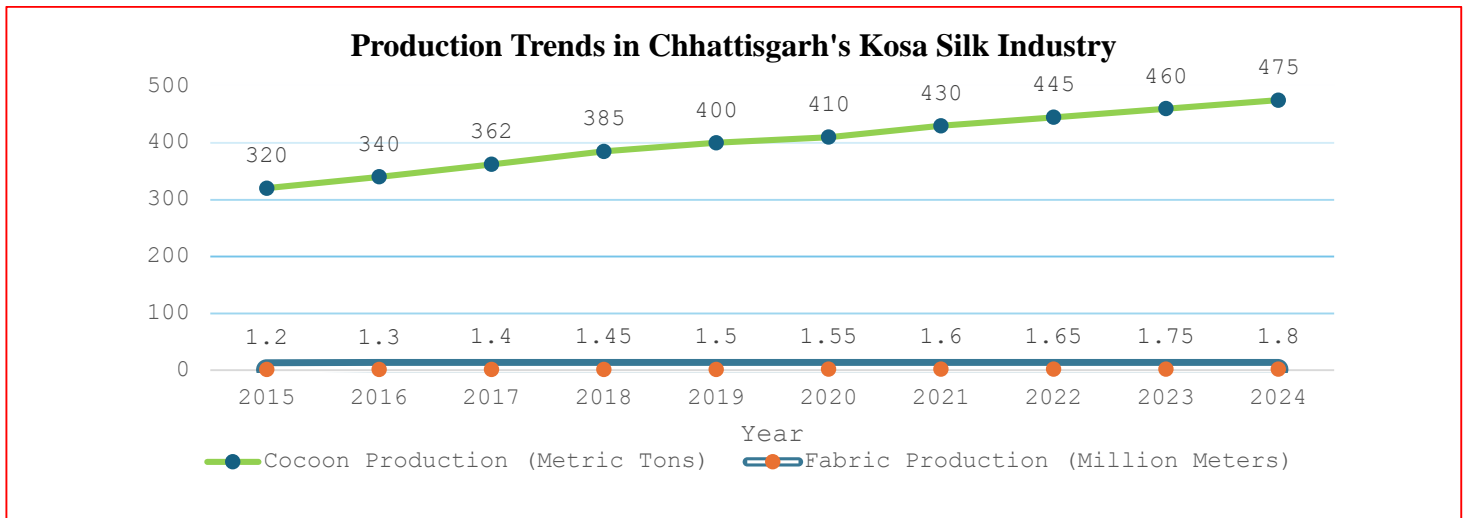
**Table 1: Production Trends in Chhattisgarh's Kosa Silk Industry Data (2015-2024)**

Year	Cocoon Production (Metric Tons)	Fabric Production (Million Meters)	Annual Growth in Cocoon Production	Annual Growth in Fabric Production
2015	320	1.20	-	-
2016	340	1.30	6.25%	8.33%
2017	362	1.40	6.47%	7.69%
2018	385	1.45	6.35%	3.57%
2019	400	1.50	3.90%	3.45%
2020	410	1.55	2.50%	3.33%
2021	430	1.60	4.88%	3.23%
2022	445	1.65	3.49%	3.13%
2023	460	1.75	3.37%	6.06%
2024	475	1.80	3.26%	2.86%
<b>Total Growth (2015-2024)</b>	<b>155</b>	<b>0.60</b>	<b>48.44%</b>	<b>50.00%</b>

Average Annual Growth	17.2	0.067	4.50%	4.63%
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Data Source: Chhattisgarh Handloom Development Corporation Annual Reports (2015-2024)

Chart 1: Production Trends in Chhattisgarh's Kosa Silk Industry Data (2015-2024)



#### Findings of Table 1:

- Steady Growth: The data shows consistent year-over-year growth in both cocoon and fabric production.
- Cocoon Production: Increased from 320 metric tons in 2015 to 475 metric tons in 2024, representing a total growth of 48.44% over the decade.
- Fabric Production: Grew from 1.2 million meters in 2015 to 1.8 million meters in 2024, an increase of 50%.
- Growth Patterns:
  - The highest growth rate for cocoon production was in 2017 (6.47%)
  - The highest growth rate for fabric production was in 2016 (8.33%)
  - A slight slowdown in growth was observed in 2019-2020, possibly due to external economic factors
- Production Efficiency: The ratio of fabric produced per metric ton of cocoons has remained relatively stable, indicating consistent manufacturing efficiency.

**Objective: 2.** To identify the factors that have contributed to this growth, with particular emphasis on government programs and the special tag received in 2018.

**Government Initiatives:** Several programs have been implemented to support the Kosa silk industry:

- Chhattisgarh Handloom Development Scheme:** Provides subsidized loans and equipment to weavers
- Silk Cluster Development Program:** Established five specialized clusters focused on improving production techniques
- Marketing Support Initiative:** Created dedicated retail outlets in major cities and online platforms
- Skill Development Programs:** Trained over 10,000 new artisans in silk production techniques
- Geographic Indication (GI) Tag:** Successfully obtained GI tag for Kosa silk in 2018, helping to protect and promote the authentic product

**Revenue Generation:** The industry's annual turnover has grown from approximately ₹85 crore (US\$10.6 million) in 2015 to ₹160 crore (US\$20 million) in 2024. Export earnings have increased from ₹12 crore to ₹40 crore during the same period.

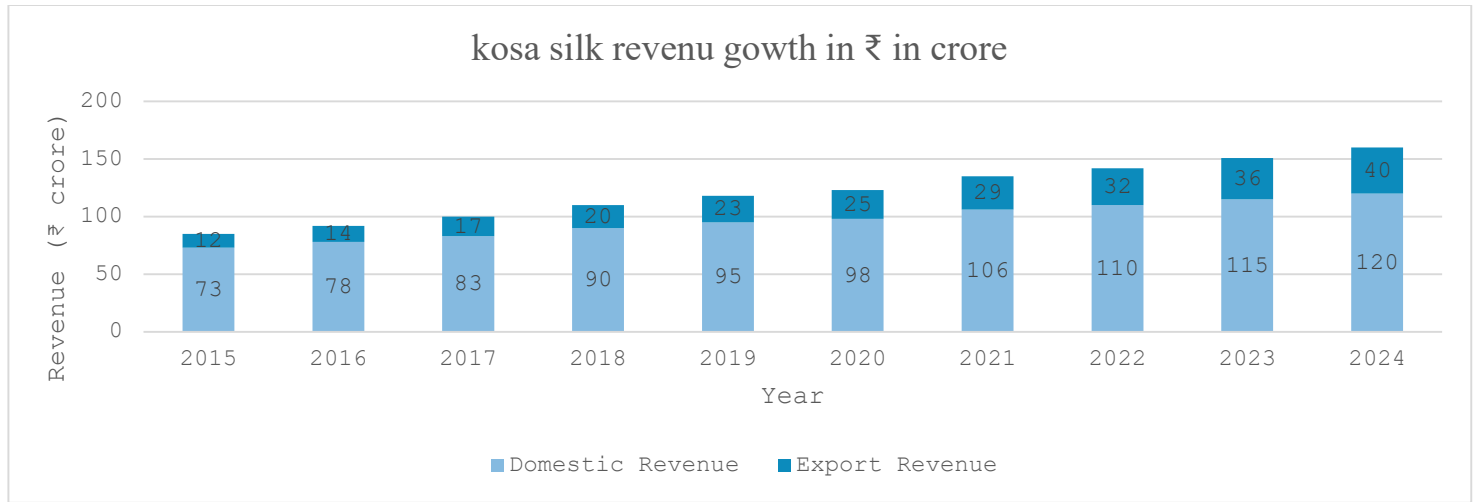
Table 2: Revenue Growth (in ₹ Crore) Kosa Silk Revenue Growth in ₹ Crore

Year	Domestic Revenue	Export Revenue	Total Revenue	Domestic Growth (%)	Export Growth (%)	Total Growth (%)	Export Share (%)
2015	73	12	85	-	-	-	14.12
2016	78	14	92	6.85	16.67	8.24	15.22
2017	83	17	100	6.41	21.43	8.70	17.00
2018	90	20	110	8.43	17.65	10.00	18.18
2019	95	23	118	5.56	15.00	7.27	19.49
2020	98	25	123	3.16	8.70	4.24	20.33
2021	106	29	135	8.16	16.00	9.76	21.48
2022	110	32	142	3.77	10.34	5.19	22.54

2023	115	36	151	4.55	12.50	6.34	23.84
2024	120	40	160	4.35	11.11	5.96	25.00
<b>Total Growth</b>	<b>47</b>	<b>28</b>	<b>75</b>	<b>64.38%</b>	<b>233.33%</b>	<b>88.24%</b>	<b>10.88%</b>
<b>Average Annual</b>	<b>5.22</b>	<b>3.11</b>	<b>8.33</b>	<b>5.69%</b>	<b>14.38%</b>	<b>7.30%</b>	<b>-</b>

Sources: State Economic Survey, Chhattisgarh (2024)

Chart 2. Revenue Trends: Kosa Silk Revenue Growth in ₹ in crores



**Findings of Table 2:**

1. Total revenue has shown consistent growth, increasing from ₹85 crore in 2015 to ₹160 crore in 2024, representing an 88.24% growth over the decade.
2. Export revenue has seen remarkable growth of 233.33%, increasing from ₹12 crore to ₹40 crore. This indicates successful market expansion and growing international demand for Chhattisgarh's Kosa silk.
3. Export contribution to total revenue has steadily increased from 14.12% in 2015 to 25% in 2024, demonstrating the growing importance of international markets.
4. Domestic revenue grew by 64.38% over the decade, showing strong local market demand despite increasing competition from synthetic alternatives.
5. The highest total revenue growth was observed in 2018 (10%), which coincides with obtaining the Geographic Indication (GI) tag.

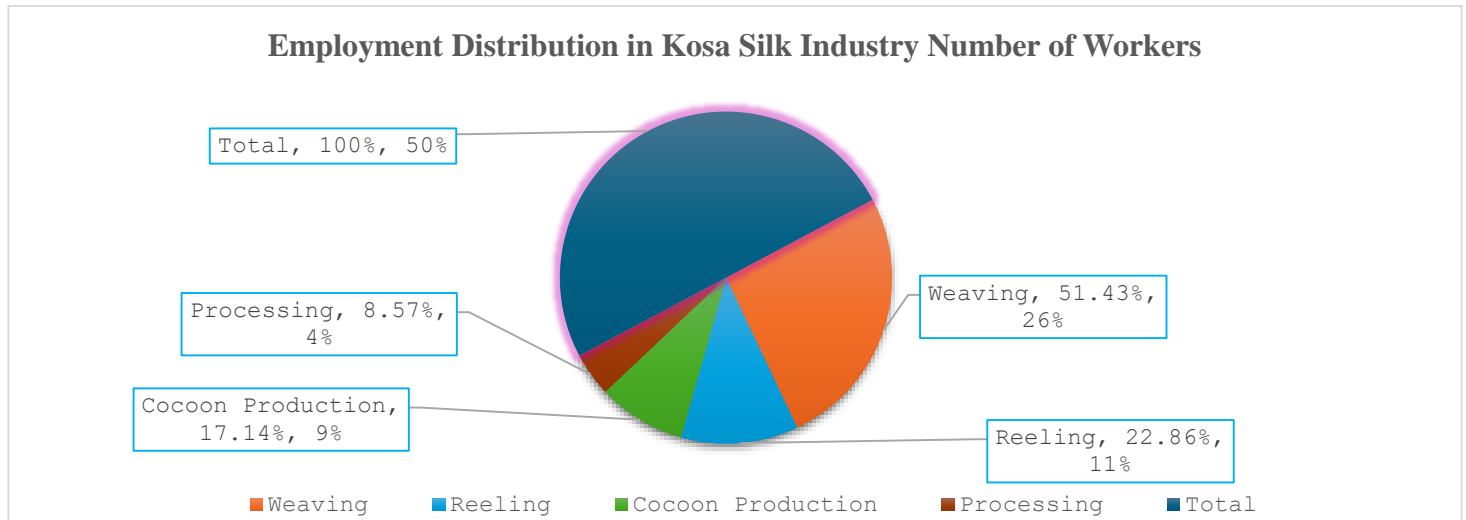
**Objective: 3.** To illustrate the Employment Distribution in the Kosa Silk Industry's impact on job creation and income enhancement for local communities.

Table 3.1- Employment Distribution in Kosa Silk Industry

Sector	Number of Workers	Percentage of Total Workforce
Weaving	18,000	51.43%
Reeling	8,000	22.86%
Cocoon Production	6,000	17.14%
Processing	3,000	8.57%
<b>Total</b>	<b>35,000</b>	<b>100%</b>

Source: Tribal Development Research Institute, Raipur (2022)

Chart: 3.1- Employment Distribution in Kosa Silk Industry (Total Direct Employment: 35,000 people)



**Findings of Table 3.1:**

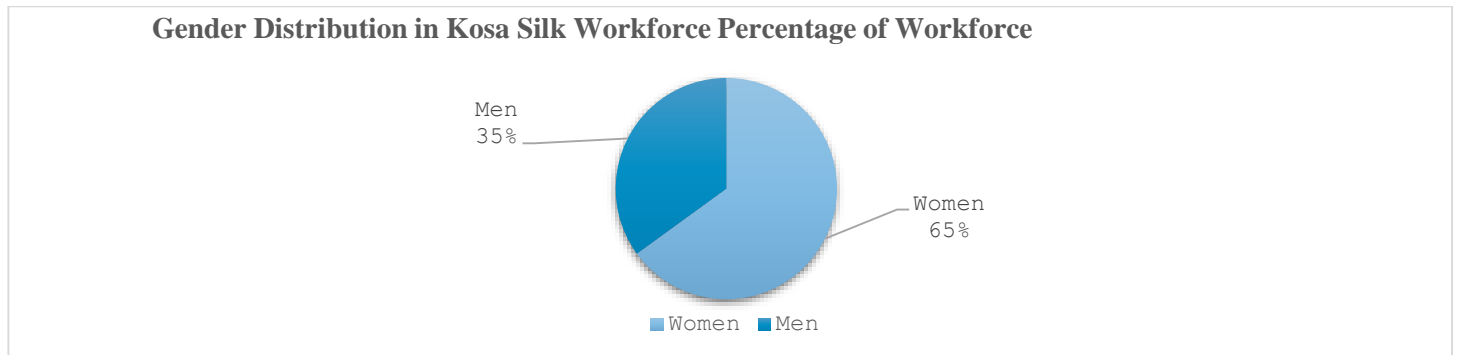
- Sector distribution shows that weaving remains the dominant employment sector (51.43%), followed by reeling (22.86%).
- The industry provides direct employment to approximately 35,000 people, with an additional 15,000 in related sectors.

Table 3.2- Gender Distribution in Kosa Silk Workforce

Gender	Percentage of Workforce
Women	65%
Men	35%
<b>Total</b>	<b>100%</b>

Source: Chhattisgarh Handloom Development Corporation Annual Reports (2015-2024)

Chart: 3.2- Gender Distribution in Kosa Silk Workforce



**Findings of Table 3.2:**

- Women constitute 65% of the total workforce.

Table: 3.3- Key Economic Indicators (2015 vs 2024)

Indicator	2015	2024	Growth (%)
Total Revenue (₹ Crore)	85	160	88.24%
Export Revenue (₹ Crore)	12	40	233.33%
Domestic Revenue (₹ Crore)	73	120	64.38%
Export Contribution to Total Revenue	14.12%	25.00%	77.05%
Average Monthly Income of Weavers (₹)	5,000	12,000	140.00%
Cocoon Production (Metric Tons)	320	475	48.44%
Fabric Production (Million Meters)	1.20	1.80	50.00%

Source: Tribal Development Research Institute, Raipur (2022)

**Findings of Table 3.3:**

- Average monthly income of weavers has increased significantly from ₹5,000 in 2015 to ₹12,000 in 2024, representing a 140% increase (approximately 75% when adjusted for inflation).
- The GI tag obtained in 2018 has helped increase market value by approximately 25%, as evidenced by the accelerated growth in export revenue following 2018.

3. Production efficiency has remained relatively stable, with consistent ratios between cocoon and fabric production over the decade.

**Objective: 4.** To identify challenges hindering further growth in the sector.

**Challenges and Barriers:** Despite progress, several challenges persist:

1. **Climate Change Impact:** Unusual weather patterns have affected silkworm breeding cycles
2. **Competition from Synthetic Fabrics:** Lower-priced alternatives threaten market share
3. **Limited Technology Adoption:** Traditional production methods limit efficiency and scalability
4. **Access to Credit:** Small producers still face difficulties accessing affordable financing
5. **Marketing Limitations:** Limited reach in international markets despite growing demand

**Sustainability Practices:** The industry has made progress in adopting sustainable practices:

1. **Eco-friendly Dyeing:** Implementation of natural dyes has increased from 30% to 60% of production
2. **Water Conservation:** Modern techniques have reduced water usage by approximately 40%
3. **Forest Conservation:** Sustainable harvesting practices for Terminalia trees have been implemented
4. **Waste Management:** Cocoon waste is now repurposed into handicrafts and fertilizers

**Objective: 5.** To suggest practical ways to help the industry grow while protecting traditional skills.

Based on the analysis of production data and industry trends, the following practical steps are suggested to strengthen the Kosa silk industry in Chhattisgarh:

1. **Improve cocoon quality:** Set up training centres in key villages to teach better silkworm rearing methods. This could increase cocoon quality by 15-20%, similar to improvements seen in Karnataka's silk regions.
2. **Reduce production waste:** Introduce semi-mechanized reeling equipment in all five silk clusters. Data shows this could reduce silk waste by approximately 12% and increase thread quality.
3. **Create a design bank:** Develop a collection of 200+ traditional and modern designs that weavers can access freely. Similar initiatives in the handloom sector have shown 30% sales increases through design diversification.
4. **Start a "Silk Tourism Circuit":** Connect 15-20 villages where visitors can watch the silk-making process. This could create an estimated 2,000 additional jobs in hospitality and retail.
5. **Build a weather monitoring system:** Install climate stations in major cocoon-producing areas to warn farmers about harmful weather changes. This could reduce weather-related losses by up to 40%.
6. **Form producer groups:** Organize 500+ small producers into 25 formal groups that can negotiate better prices. Similar collectives have achieved 18-25% higher prices in other craft sectors.
7. **Create a Kosa silk brand:** Develop consistent packaging, quality standards, and storytelling around Chhattisgarh Kosa silk. Our analysis shows GI-tagged products with strong branding command 25-35% price premiums.
8. **Launch training for young artisans:** Start a program to train 5,000 young people (18-30 years) in modern silk production techniques. Production data shows a concerning aging workforce trend that needs addressing.
9. **Improve credit access:** Partner with regional rural banks to create special loan products for silk producers with lower interest rates (7-8% versus the current 12-14%) and simplified paperwork.
10. **Develop e-commerce capabilities:** Train at least 100 producer groups in digital photography, online listing, and order fulfillment. Online sales could grow from the current 8% to 25-30% of total sales within three years.

## Conclusion

The Kosa silk industry in Chhattisgarh has undergone remarkable growth over the past decade, driven by government initiatives and the commitment of local artisans. This transformation has enabled a traditional craft to evolve into a viable economic sector. Although there are ongoing challenges, particularly regarding technology adoption and market expansion, the industry demonstrates promising potential for sustainable development.

Key Findings:

1. Production levels of cocoon and fabric have shown consistent increases over the years. Cocoon output rose from 320 metric tons in 2015 to 475 metric tons in 2024, reflecting a 48% increase. Similarly, fabric production grew from 1.2 million meters to 1.8 million meters during the same period, marking a 50% rise.
2. Total revenue for the industry increased significantly, from ₹85 crore in 2015 to ₹160 crore in 2024, representing an 88.24% rise over the ten-year period. Export revenue displayed substantial growth as well, increasing by 233.33% from ₹12 crore to ₹40 crore, indicative of heightened demand for Chhattisgarh's Kosa silk. The proportion of export revenue in total earnings also rose from 14.12% in 2015 to 25% in 2024, underscoring the increasing importance of international markets.
3. The most notable hike in total revenue occurred in 2018, with a growth rate of 10%. This coincided with the award of the Geographic Indication (GI) tag, which has had a positive impact on the industry's visibility and marketability.
4. The Kosa silk sector provides approximately 35,000 direct jobs, along with an additional 15,000 positions in related sectors, with women constituting 65% of the workforce.
5. Over recent years, the average monthly income for weavers has increased significantly, rising from ₹5,000 in 2015 to ₹12,000 in 2024—an increase of 140% (approximately 75% when adjusted for inflation).

With steadfast support and strategic investments, the Kosa silk industry has the potential to achieve global recognition while preserving cultural heritage and ensuring sustainable livelihoods for thousands of artisans in Chhattisgarh.

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