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The Economics of Weaving: A Study of the Handloom Industry in Assam

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Abstract: The handloom industry holds immense significance in India's rural economy and culture. This study focuses on the economic aspects of Assam's handloom industry, examining its current production status and major challenges based on existing literature. Assam, the gateway to Northeast India, is rich in cottage industries, among which handloom stands out as the largest. The sector plays a crucial role in rural socio-cultural life by preserving traditions, providing livelihoods, generating supplementary income, and promoting women's economic empowerment. Using secondary data, the study analyzes handloom cloth production in Assam. District-wise data show a significant concentration of production in a few districts, particularly Dhubri, Dhemaji, and Barpeta, which together account for nearly two-thirds of the state's total output. While districts in lower and upper Assam serve as major production hubs, hill and remote districts exhibit very limited production, highlighting the need for targeted government policy interventions and capacity-building programmes to ensure balanced regional development. Existing literature identifies economic hardship, skill gaps, market and infrastructure deficiencies, educational and awareness barriers, and technological limitations as key constraints on the handloom sector's growth. Addressing these interconnected challenges is necessary to enhance productivity, support weavers' livelihoods, and preserve the cultural heritage of traditional handloom weaving in Assam. The sustainability of Assam's handloom industry depends on a combination of financial support, skill development, infrastructure improvement, awareness programs, and technological modernization. Properly implemented policy interventions can significantly boost productivity, innovation, and market competitiveness.

Key-words: Handloom, cottage industry, women's economic empowerment, innovation, market competitiveness

I. Introduction:

The handloom industry in India is an age-old cottage industry with immense significance in the country's rural economy and culture. In 2014, the Planning Commission of the Government of India reported that the handloom sector, being labor-intensive, supports the livelihoods of 4.3 million weavers and ancillary workers (Baishya, 2014). Assam, a state of Northeast India, is rich in cottage industries. Among these, the handloom industry, the key cottage industry in Assam, occupies a significant place in the socio-cultural and economic life of rural Assam. Assam has over 1.3 million looms operating within the state, representing nearly half of the country's total 2.8 million looms (Devi, 2013, as cited in Baishya, 2014). Latest data show that there were 78,642 full-time weavers and 680,687 part-time weavers during 2024–25 in Assam. There were 210 handloom demonstration circles in the state, covering 21,642 villages. There were 135 Handloom Training centres in the state, which accommodated 1,516 trainees. Combined

handloom production during 2024–25 in the weaver's extension service units and handloom production centres of the Directorate was 14,549.92 metres (Directorate of Economics and Statistics, Government of Assam, 2026). Known for its unique weaving techniques and beautifully crafted textiles, Assam's handloom sector contributes significantly to both rural livelihoods and the preservation of cultural heritage. Handloom weaving in Assam is not just an economic activity. It is a craft passed down through generations, reflecting the region's artistic sensibilities and social identity.

Economically, the handloom sector provides employment to a large portion of the rural population, especially women, and serves as a source of supplementary income for many households. Unlike machine-made textiles, handloom products are created by skilled artisans using simple tools and locally available materials, making the process labor-intensive but environmentally sustainable. The products—ranging from traditional garments like mekhela chadors and gamosas to contemporary home textiles—carry both practical and aesthetic value, attracting consumers in domestic and international markets.

Despite its cultural and economic importance, the handloom industry faces numerous challenges, including competition from power looms, lack of modern technology, limited access to modern marketing channels, and difficulties in obtaining raw materials. Understanding the economics of weaving in Assam, therefore, involves examining production, challenges, and possible remedies for the artisans' improvement.

This study aims to analyze the production data and challenges faced by weavers in Assam's handloom industry. In doing so, it highlights the role of handloom weaving not only as a source of livelihood but also as a major contributor to the socio-economic development of rural Assam.

II. Need for the Study:

The handloom industry of Assam is one of the largest cottage industries and plays a significant role in rural employment generation, women's economic participation and empowerment, and the preservation of traditional weaving heritage. The sector contributes substantially to household income and sustains a large number of artisan families across the state.

Despite its cultural and economic importance, the industry faces several constraints. These persistent challenges have raised concerns regarding the sustainability and growth of the sector. A systematic economic analysis based on secondary data is therefore necessary to:

- 1) Understand the role of weaving as a source of livelihood.
- 2) Examine the challenges affecting income and productivity as reflected in existing literature.
- 3) Provide policy-oriented insights for strengthening the sector.

The study is particularly relevant in the broader context of rural development, women's empowerment, and the promotion of indigenous industries based on the Indian knowledge system.

III. Theoretical Framework:

The handloom industry refers to the traditional method of weaving in which cloth is produced manually using a hand-operated loom. Weaving involves fabric production by interlacing yarns and forms the basis of handloom textile production (Encyclopædia Britannica, 2026). Unlike power looms or mill-based textile production, handloom weaving does not depend on electricity or large-scale machinery. The process involves interlacing warp and weft threads by hand to produce fabrics of various textures, designs, and qualities. The handloom industry in Assam is a cottage industry, because weaving is mostly home-based, family-run, and uses manual looms. At the same time, it is small-scale production in the economic sense because each household produces limited quantities manually. The handloom industry is typically characterized by:

1. Small-scale production
2. home-based (cottage) or organized through cooperatives
3. Family labor participation
4. Low capital investment
5. Use of traditional skills passed through generations
6. Produces silk, cotton, and other traditional fabrics
7. Often tied to cultural heritage and local identity

8. Rural employment source
9. Women-centered livelihood system

Different Forms of the Handloom Industry in Assam:

The handloom tradition of Assam is unique due to its strong cultural roots and household-level weaving practices. Weaving is traditionally practiced by women and is closely associated with identity and social customs.

The major forms include:

1. Silk Weaving: Assam is particularly famous for its indigenous varieties of silk.

- a) **Muga Silk:** Known for its natural golden color and durability.
- b) **Eri Silk:** Soft, warm, and often used for shawls and winter garments.
- c) **Pat Silk:** A fine variety of mulberry silk used for traditional attire.

These silks are commonly used in producing traditional garments such as Mekhela Chador and Gamosa.

2. Cotton Weaving: Cotton weaving is widely practiced at the household level. It produces everyday garments, traditional dresses, scarves, and decorative textiles.

3. Household-Based Weaving: In many rural areas, weaving is not always commercial but part of domestic activity. Women weave fabrics for family use, festivals, and social ceremonies.

4. Commercial and Cooperative Weaving: Apart from household production, weaving is also organized through:

- a) Weavers' cooperative societies
- b) Self-help groups
- c) Small-scale production units

IV. Literature Review:

Kalita (2019) investigated how socio-economic and demographic factors, including age, marital status, and education, relate to women's income from weaving and their participation in handloom activities in Assam. The study utilized both primary and secondary data sources. By analyzing the relationships among women's age, educational attainment, marital status, weaving income, and engagement measured in hours of work through correlation analysis, the study found that income from weaving was significantly and positively associated with the level of involvement of women weavers. Additionally, higher educational levels were positively correlated with greater hours of work or engagement in weaving activities. In contrast, age exhibited a statistically significant negative correlation with hours of work, indicating that older women tended to spend fewer hours on weaving.

Based on a case study of the Rampar Self-Help Group in Udalguri, Assam, Deka et al. (2024) examined the economic impact of the KVK intervention on weavers, the range of products they produced, and the challenges they encountered. The study revealed that following the support from KVK Udalguri, the weavers were able to generate an average annual income of approximately Rs. 13–15 lakhs and produce a diversified portfolio of twenty different handloom products. These included standardized items such as Gamosa, Mekhela Chador, dining mats with runners, handbags, and sarees, featuring both Assamese and Rabha designs. The study also identified several constraints faced by the weavers, including difficulties in time management, high costs of raw materials, and exploitation by intermediaries.

Bori and Bhattacharyya (2020) examined the working postures of women engaged in various handloom activities. The study, conducted in Lakhimpur district of Assam, involved a sample of 60 workers and relied on primary data collection. Postural assessment was carried out using ergonomic evaluation tools, specifically the Rapid Upper Limb Assessment (RULA) and the Strain Index. The findings indicated that handloom workers frequently adopted awkward postures during their tasks, with the Strain Index showing the highest stress on both the right and left hands involved in weaving activities. The study highlighted a substantial occupational risk associated with handloom work and suggested that the application of ergonomic interventions could mitigate postural strain and improve worker well-being.

In their empirical study, Dutta et al. examined the relationship between domestic weavers and their social environment, focusing on how social challenges influence the income levels of weavers. The research specifically assessed the socioeconomic factors affecting domestic weaving practices, which shape the skills, choices, and perceptions of weavers within the upstream integration and supply chain. The study found that due to the low income associated with Gamosa production, many workers do not consider domestic weaving a viable livelihood option during their available time. Furthermore, the study concluded that the various social challenges encountered in the Gamosa production process significantly impact the income of the weavers.

Despite existing studies focusing on socio-economic and occupational aspects, there is limited research examining district-level production concentration and regional disparities in Assam using recent official statistics. However, a few of the previous studies have examined district-wise production concentration using recent 2022–23 official data, which this study attempts to address. Although existing studies have examined various socio-economic dimensions of Assam's handloom sector—such as women's participation, income generation, occupational health issues, and institutional support mechanisms—there is limited research focusing on district-wise production concentration and regional disparities using recent official statistics. Furthermore, there is a lack of updated empirical assessment using the latest data from the Statistical Handbook of Assam (2022–23) to examine spatial concentration patterns and production inequality among districts. Therefore, a systematic analysis of district-level production distribution and its policy implications remains underexplored. The present study attempts to fill this gap by analyzing recent secondary data to identify regional concentration patterns and major structural challenges affecting the growth and sustainability of Assam's handloom industry.

V. Objectives of the Study:

1. To examine the production of handloom cloth in Assam based on available secondary data.
2. To analyze the major challenges affecting the growth of the handloom sector in Assam as reflected in existing literature

VI. Data Source and Methodology of the Study:

The study adopts a descriptive and analytical method. It is based exclusively on secondary data to examine the present production status and challenges faced by the handloom industry in Assam. Secondary data have been collected from Directorate of Economics and Statistics, Government of Assam. The analysis covers a specific reference period (2022-23). To analyse the stated objectives, statistical tools such as mean, standard deviation, coefficient of variation, and percentage analysis were used to interpret district-wise production patterns. A review of existing literature was conducted to identify major challenges, and tabular presentation was used for clarity and interpretation.

VII. Limitations of the Study:

1. The study is restricted to available published secondary data.
2. Findings depend on the reliability and accuracy of official sources.
3. Micro-level field realities are not captured due to the absence of primary data.
4. The study covers only one reference year 2022-23.

VIII. Discussion:

To analyse the present status of handloom production in Assam, production across different districts has been compared to highlight regional variations (Table 1).

Table 1 shows that production of handloom clothes in the state was 224280.3 metres. Dhubri district emerges as the leading producer, with 83,315 metres, highlighting its dominant role in the state's handloom sector. In contrast, Udalguri recorded the lowest production of only 94 metres, reflecting very limited handloom activity in some regions.

These data suggest a highly uneven distribution of production, emphasizing the need for targeted policy interventions. High-producing districts like Dhubri may require support in scaling operations and market access, while low-producing districts could benefit from capacity building, skill development, and

improved infrastructure. Overall, the data provides a clear picture of regional variations and can guide strategic planning for equitable growth in Assam's handloom industry.

Table 1 Handloom production by district in 2022-23

District	Production of handloom clothes (in metre)	District	Production of handloom clothes (in metre)	District	Production of handloom clothes (in metre)
Kokrajhar	1232.35	Sivasagar	3272	Nalbari	7489.06
Dhubri	83315	Jorhat	11090.5	Baksa	5679
Goalpara	5485	Golaghat	8413.82	Darang	120
Barpeta	16875	Karbi Anglong	12804	Udalguri	94
Morigaon	5235	Dima Hasao	352	Biswanath	4215
Nagaon	8853	Cachar	6458	Charaideo	1180
Sonitpur	1450.38	Karimganj	4100	Hojai	5000
Lakhimpur	4338	Hailakandi	192	Majuli	4900
Dhemaji	17262	Bongaigaon	1368	South Salmara	n/a
Tinsukia	2670	Chirang	n/a	W.K. Anglong	408
Dibrugarh	n/a	Kamrup (R+M)	428.72	Assam	224280.3

Source: Statistical Handbook, Assam 2023, by Directorate of Economics and Statistics, Government of Assam (2023).

To statistically measure the extent of regional disparity in handloom production across districts in Assam, the Coefficient of Variation (CV) was computed and presented in Table 2.

A perusal of table 2 reveals that the mean production across 29 districts, excluding districts with production data marked as n/a, was 7,733.79 metres, with a standard deviation of 15,284.1 metres. The calculated CV is 197.63%, implying an extremely high level of production concentration and regional imbalance. A CV exceeding 100 percent indicates that production is heavily skewed toward a few dominant districts, particularly Dhubri, while several districts contribute negligibly to total output. This statistical evidence confirms the presence of structural inequality in the spatial distribution of handloom production in Assam and strengthens the need for targeted regional development policies.

Table 2: Coefficient of Variation of District-wise Handloom Production (2022–23)

Statistic	Value	Unit
Number of Districts (n)	29	—
Total Production	224,280.83	Metres
Mean Production	7,733.79	Metres
Standard Deviation	15,284.1	Metres
Coefficient of Variation (CV)	197.63	Percentage

Source: Author's own calculation based on Statistical Handbook, Assam (2023).

Table 3 District-wise Handloom Production and Percentage Share in Assam (2022-23)

District	Production (Metres)	% Share of Total Production
Dhubri	83,315	37.15%
Dhemaji	17,262	7.69%
Barpeta	16,875	7.52%
Karbi Anglong	12,804	5.71%
Jorhat	11,090.50	4.94%
Nagaon	8,853	3.95%
Golaghat	8,413.82	3.75%
Nalbari	7,489.06	3.34%
Cachar	6,458	2.88%
Baksa	5,679	2.53%
Goalpara	5,485	2.45%
Morigaon	5,235	2.33%
Hojai	5,000	2.23%
Majuli	4,900	2.18%
Lakhimpur	4,338	1.93%
Biswanath	4,215	1.88%
Karimganj	4,100	1.83%
Sivasagar	3,272	1.46%
Tinsukia	2,670	1.19%
Sonitpur	1,450.38	0.65%
Bongaigaon	1,368	0.61%
Kokrajhar	1,232.35	0.55%
Charaideo	1,180	0.53%
Kamrup (R+M)	428.72	0.19%
W.K. Anglong	408	0.18%
Dima Hasao	352	0.16%
Hailakandi	192	0.09%
Darang	120	0.05%
Udalguri	94	0.04%

Source: Author's own calculation based on Statistical Handbook, Assam 2023

N.B. Districts with No Available Data have been excluded.

A perusal of the above table reveals that the handloom production in Assam is highly concentrated in a few districts. Dhubri is the dominant district in handloom industry in Assam, contributing 37.15% of the total production, indicating it is the largest handloom-producing district by a wide margin. The top five districts are Dhubri, Dhemaji, Barpeta, Karbi Anglong, and Jorhat which together account for over 63% of total production, showing a regional concentration of handloom activity. Districts like Nagaon, Golaghat, Nalbari, Cachar, Baksa, Morigaon, Hojai, and Majuli have production shares ranging from 2% to 4%, indicating moderate contribution to the state's overall handloom output. These districts can be considered as secondary hubs for handloom production, with potential for development. Also several districts such as Udalguri, Darang, Hailakandi, Dima Hasao and W.K. Anglong contribute less than 0.2% each, indicating very limited handloom activity.

The high concentration of production in a few districts implies that policy interventions, skill development programmes, and marketing strategies could focus on high-production hubs for maximum impact.

Low-producing districts could be undertaken for capacity building, technology support, and market integration to ensure equitable regional development.

IX. Major Challenges Affecting the Growth of the Handloom Sector in Assam:

The handloom sector in Assam plays a significant role in rural livelihoods and income generation, contributing to the socio-economic development of local communities. Despite its importance, this traditional industry faces multiple interrelated challenges that limit its growth and sustainability. A review of existing literature highlights these challenges under five thematic categories.

1) Economic Constraints:

Economic hardship, low wages, and limited access to capital are major barriers affecting productivity and innovation in Assam's handloom sector (Boruah & Konwar, 2020; Bora & Borah, 2024). High yarn prices have also been identified as a growth constraint, increasing production costs and reducing competitiveness (Bora & Borah, 2024). These financial limitations reduce motivation among weavers to diversify products and adopt value-added practices, thereby constraining the overall development of the sector.

2) Skill and Human Resource Constraints:

Limited training opportunities further weaken the sector's growth potential by restricting technical skill development and entrepreneurial capacity (Boruah & Konwar, 2020; Bora & Borah, 2024). Additionally, the declining number of traditional weavers limits the continuity of heritage weaving skills and reduces overall production capacity (Borgohain, 2024). Together with economic hardship, these workforce constraints hinder both productivity and the long-term sustainability of the handloom industry.

3) Market and Infrastructure Issues:

Inadequate infrastructure, weak market linkages, and communication challenges significantly restrict the growth and competitiveness of Assam's handloom sector (Boruah & Konwar, 2020; Bora & Borah, 2024). Competition from power looms is a recurring concern across multiple studies, as it threatens traditional weaving practices and reduces market share (Boruah & Konwar, 2020; Bora & Borah, 2024; Borgohain, 2024). Limited access to broader markets and poor storage facilities further constrain expansion and profitability, emphasizing the need for improved infrastructure and market support mechanisms.

4) Educational and Awareness Barriers:

Low educational attainment among weavers and inadequate awareness of facilities provided by Weaver Service Centres are critical constraints in the handloom sector (Boruah & Konwar, 2020). These factors limit the effective utilization of government schemes, reduce access to institutional support, and impede adoption of improved production and marketing practices. As a result, productivity and innovation remain restricted despite the availability of developmental programs.

5) Technological Constraints:

The lack of access to modern weaving technology further limits productivity and competitiveness (Borgohain, 2024). Traditional production methods, combined with outdated tools, reduce efficiency and hinder the sector's ability to innovate and compete with mechanized alternatives. Technological limitations, together with workforce constraints, represent a significant barrier to sustaining and expanding the handloom industry in Assam.

X. Policy interventions:

The challenges facing the handloom industry in Assam require well-planned policy interventions to ensure sustained growth:

- 1) Targeted financial support and credit facilities should be provided for young entrepreneurs in the handloom sector.
- 2) Subsidies or price stabilization schemes for raw materials like yarn should be introduced to reduce production costs.
- 3) Dedicated training centers should be established to enhance weaving techniques and business skills.

- 4) Programs to attract youth and new entrants into traditional weaving communities should be promoted to sustain the workforce.
- 5) Modern storage facilities and logistics support should be developed to ensure product quality and timely delivery.
- 6) Marketing networks, including online platforms and export promotion, should be strengthened to expand market reach.
- 7) Awareness programs should be conducted to educate weavers about government schemes, subsidies, and technical assistance.
- 8) Community-based workshops and information campaigns should be promoted to enhance understanding of business and market trends.
- 9) Technology up gradation should be facilitated by providing subsidized modern equipment and weaving machines.
- 10) Research and innovation in weaving techniques should be encouraged to improve productivity and product quality.

XI. Conclusion:

The district-wise analysis reveals a significant concentration of handloom production in a few districts, particularly Dhubri, Dhemaji, and Barpeta, which together contribute nearly two-thirds of Assam's total output. While lower and upper Assam districts are major production hubs, hill and remote districts exhibit very limited production, suggesting the need for government policy interventions and capacity-building programmes to ensure balanced regional development. The literature indicates that economic hardship, skill gaps, market and infrastructure deficiencies, educational and awareness barriers, and technological limitations interact to constrain the growth of Assam's handloom sector. Addressing these interrelated challenges is essential to enhance productivity, support weavers' livelihoods, and preserve the cultural heritage of traditional handloom weaving. The growth and sustainability of Assam's handloom sector depend on a combination of financial support, skill development, infrastructure enhancement, awareness programs, and technological modernization. Properly implemented policy interventions addressing these challenges can significantly boost productivity, innovation, and market competitiveness.

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