



Historical Development Present Problems and Future Renewal of the Jute Industry in West Bengal: A Comprehensive Investigation

Pampa Bokshi ¹

¹ Research Scholar, Department of History, YBN University, Ranchi, Jharkhand, India.

Dr. Bijaya Birua ²

²Assistant Professor, Research Supervisor, Department of History, YBN University, Ranchi, Jharkhand, India.

ABSTRACT

The jute industry has played a major role in the industrial, economic and social development of West Bengal since the middle of the nineteenth century. This paper examines its historical growth, present problems and future possibilities by combining historical interpretation with recent production and employment data. The industry developed along the Hooghly River because this area offered access to Kolkata Port, river transport, railways, coal, finance, imported machinery and a large migrant workforce. British capital and managing agencies helped the mills grow quickly, but they also created concentrated ownership and dependence on overseas markets. After Independence, the Partition of 1947 separated many mills in India from important raw-jute areas in East Pakistan. Government support, compulsory jute packaging and expansion of cultivation helped the industry survive. However, old machinery, unstable employment, working-capital pressure, synthetic substitutes, environmental problems and dependence on sacking continue to limit its performance. Official data show that jute-goods production declined from 1,633.7 thousand metric tonnes in 2008-09 to 1,043.9 thousand metric tonnes in 2024-25. The paper concludes that the industry can be renewed through better fibre quality, modern machinery, stable labour relations, cleaner production, diversified products, heritage-based community regeneration and stronger coordination among public institutions.

Keywords: *Jute Industry, West Bengal, Industrialization, Hooghly Corridor, Labour, Diversification, Sustainability.*

Introduction

Jute is closely connected with the history of industrialisation in Bengal. It linked agriculture in the Bengal delta with factories along the Hooghly River and global markets reached through Kolkata Port. It also created industrial towns, migrant-worker settlements and business institutions. For this

reason, jute should not be studied only as a fibre or factory product. It should be understood as a regional industrial system involving cultivators, traders, transport workers, mill owners, factory workers, government agencies and consumers.

Modern jute manufacturing began in the nineteenth century when international demand for sacks, ropes and hessian increased. Jute was suitable for packing agricultural and industrial commodities because it was strong, inexpensive and widely available. The industry grew rapidly near Kolkata and became one of the most important export industries of colonial India. However, its growth was unequal. Foreign capital and managing agencies controlled important commercial decisions, while cultivators and workers carried much of the risk created by price changes and unstable employment (*Bagchi, 1972; Chakrabarty, 1989*).

The industry remains important today. Government reporting states that India had 120 composite jute mills in December 2025, including 89 in West Bengal. It provided direct employment to about 3.70 lakh workers and supported nearly 40 lakh farm families (*Press Information Bureau, 2026*). These numbers show that the sector still has a wide social base. At the same time, production has declined over the longer period, and traditional sacking continues to dominate output.

The purpose of this paper is to connect historical development with present industrial problems. The paper has four objectives: to explain the historical growth of the Hooghly jute belt; to examine the economic and social impact of the industry; to analyse recent production and structural problems; and to suggest practical pathways for renewal. The language is kept simple so that the argument remains clear while retaining academic evidence and APA-style name citations.

Method and Sources

The paper uses a historical and descriptive analytical approach. It is based on the evidence developed in Chapters 3 and 4 of the study on industrialisation and the jute industry in West Bengal. Historical interpretation is supported by books and articles on colonial trade, managing agencies, labour, technology, Partition, industrial policy and urban development. Recent numerical evidence is taken mainly from the Office of the Jute Commissioner, the Jute Corporation of India and Government of India sector reports.

The quantitative analysis uses annual production data for 2008-09 to 2024-25. Percentage change, average production, product share and approximate compound annual growth rate are calculated to explain the direction of the industry. These measures describe trends but do not prove a single cause. Production may change because of orders, raw-material supply, mill closures, capacity use, finance or reporting coverage. Therefore, the statistical findings are interpreted together with historical and institutional evidence.

Comparative academic studies are used only when their concepts are relevant. For example, Kapsos (2005) helps explain employment intensity, Baños-Caballero et al. (2014) explain working-capital management, Zanko and Dawson (2012) explain occupational safety systems, and Martinović and Ifko (2018) explain industrial heritage-based regeneration. Such studies provide analytical ideas; they are not treated as direct statistical evidence about West Bengal.

Historical Development of the Jute Industry

Colonial Calcutta developed as an administrative centre, port and commercial city. European trade created warehouses, banks, insurance services, shipping networks and agency houses. Debnath (2013) explains that European commerce and colonial administration strongly influenced the growth of modern Indian port cities. In Bengal, these institutions created the conditions required for factory-based jute production.

The first modern jute mill is generally associated with George Acland's establishment at Rishra in 1855. The Hooghly location offered several advantages. The river moved raw fibre and provided water and factory frontage. Kolkata Port connected producers with overseas markets. Railways brought coal, workers and agricultural materials. Nearby engineering workshops supported repairs. Sinha (2016) shows that factories and transport created a connected Calcutta industrial conurbation rather than isolated mill settlements.

The growth of the industry depended on capital and business organisation. The managing agency system became an important method of controlling companies. Managing agents raised finance, purchased machinery, employed managers, organised shipping and marketed production. Aldous (2017) argues that this hybrid system reduced coordination difficulties in a market where specialised financial and managerial institutions were limited. However, it also concentrated control and created possible conflicts between agents and shareholders.

Technology was largely imported from Britain, especially Dundee. Mills used machines for softening, carding, drawing, spinning, winding, weaving and finishing. Machinery alone was not enough. Workers and mechanics developed practical knowledge about fibre quality, machine settings, repairs and production flow. Balconi (2002) distinguishes written or codified knowledge from tacit knowledge learned through experience. This distinction explains why workers remained essential even when machines became more advanced.

The mill belt attracted workers from Bihar, eastern Uttar Pradesh, Odisha, the Chotanagpur region and other areas. Jobbers and sardars recruited labour and controlled access to departments. Chakrabarty (1989) explains that labour relations were shaped by class, community, caste, locality and personal authority. Workers did not enter the mill only as individual wage earners; they carried social identities and village relationships into industrial life.

The First and Second World Wars increased demand for sacks and sandbags. Wartime production created profit and expanded capacity, but it also strengthened dependence on traditional packaging. During the interwar period, global competition and weak demand encouraged firms to limit production and working time. The Great Depression showed how quickly a fall in world trade could affect mills, workers and raw-jute cultivators.

Partition in 1947 created the most serious structural shock. Most mills remained in India, while large areas producing high-quality raw jute became part of East Pakistan. Internal movement of fibre became international trade. Fenske and Bharadwaj (2012) show that Partition-related migration affected jute cultivation and agricultural adjustment in India. The Indian government encouraged cultivation in West Bengal, Bihar, Assam and other areas and later created institutions to support price, procurement, research and extension.

After Independence, the state played a larger role through licensing, controls, research, procurement and industrial support. Bhattacharjea (2023) divides Indian industrial policy into a period of strong intervention from 1948 to 1980, gradual reform from 1980 to 1991 and market-oriented reform after 1991. Jute moved through all three phases but continued to receive special protection because it supported a large number of workers and cultivators.

The Jute Packaging Materials Act of 1987 gave the Central Government power to require selected commodities to use jute packaging. The Act protected demand for jute products and supported employment and raw-fibre cultivation (Government of India, 1987). However, protected demand also allowed some mills to continue using old machinery and remain dependent on bulk sacking. The historical strength of policy support therefore became both a source of survival and a possible reason for slow diversification.

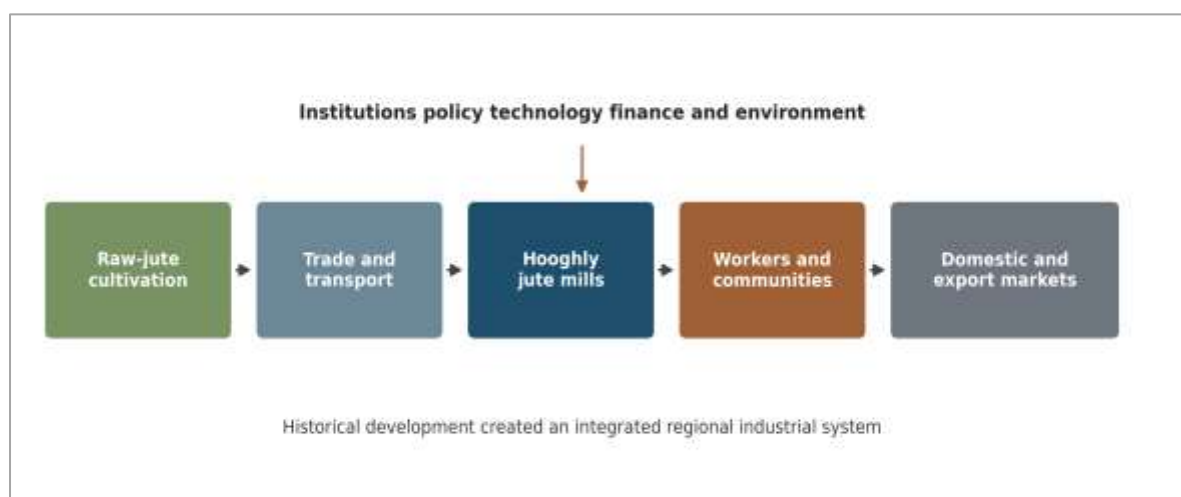


Figure 1. Integrated Historical System of The Bengal Jute Industry

Source: Prepared by the author from the historical analysis of Bagchi (1972), Chakrabarty (1989), Sinha (2016), and Roy (2011).

Economic Social and Regional Impact

The jute industry created a large chain of employment. Cultivation requires sowing, weeding, harvesting and retting. Traders collect, grade and transport fibre. Mills employ workers in production, maintenance, finishing, quality control and material handling. Diversified units add work in design, stitching, printing and fabrication. Local shops, transport providers and housing markets also depend on worker income.

The relationship between approximately 3.70 lakh direct industrial workers and nearly 40 lakh farm families shows that the upstream livelihood base is much larger than mill employment. These figures are not directly comparable as a technical employment ratio because one refers to workers and the other to families. Still, they show why jute policy affects a very large rural and urban population (Press Information Bureau, 2026).

The industry also shaped urbanisation. Mills were concentrated along both banks of the Hooghly, and settlements developed near factory gates and railway stations. Industrial towns such as Rishra, Serampore, Bhadreswar, Champdani, Titagarh, Naihati and Jagatdal became part of a wider metropolitan corridor. Dutta (2025) identifies a Kolkata-centred pattern of urbanisation in which Howrah, Hooghly and North 24-Parganas have strong infrastructure and non-farm linkages.

Industrial growth produced serious social problems. Housing and sanitation did not always grow at the same rate as factories and population. Migrant workers often lived in crowded neighbourhoods. Irregular shifts and mill closures reduced household income and affected food, education, rent and medical care. Dean and Coulter (2006) show that work-life conditions in low-income neighbourhoods depend on employment control, transport, housing and care services rather than personal choice alone.

Women contributed through factory work, informal earning and unpaid care. Their work helped households survive during unemployment and reduced shifts. Kabeer (1999) explains that women's empowerment requires resources, agency and achievements. Employment alone is not enough when women lack safe transport, childcare, sanitation, equal wages, promotion or decision-making power.

The industry also created environmental pressure. Jute is renewable and biodegradable, but retting may reduce local water quality when it is poorly managed. Mills create fibre dust, noise, wastewater, solid waste and boiler emissions. Old machinery may consume more energy and produce more waste. Zimmerer (2006) argues that environmental conditions must be understood together with livelihoods, institutions and control over resources. Cleaner production should therefore protect both ecology and employment.

Present Problems of the Industry

The first major problem is product concentration. In 2024-25, total jute-goods production was 1,043.9 thousand metric tonnes. Sacking contributed 866.0 thousand tonnes, equal to about 83.0% of total output. Hessian contributed 102.6 thousand tonnes, while other products contributed only 75.3 thousand tonnes (Office of the Jute Commissioner, 2026). This composition shows that diversified products remain a small part of physical production.

The second problem is old machinery and low productivity. Many mills use equipment that requires frequent repair, high energy use and intensive manual handling. Knop (2025) explains that industrial improvement should identify the main production constraint instead of replacing machinery without studying the whole process. In a jute mill, improvement in one department may create another bottleneck if material flow, maintenance and skill are not coordinated.

The third problem is working capital. Mills must purchase seasonal raw jute, pay wages and energy costs, maintain inventory and wait for customer payment. Baños-Caballero et al. (2014) show that working-capital management is connected with business performance and financial constraints. Too little fibre stock may stop production, while excessive or poor-quality stock increases interest and storage costs.

The fourth problem is employment insecurity. Mills may reduce shifts, use casual labour or issue suspension notices when orders or fibre supply decline. McGann et al. (2012) find that casual employment can harm health and well-being through uncertain income and reduced control. In the jute belt, employment uncertainty affects entire families and local neighbourhoods.

The fifth problem is competition from synthetic materials. Polypropylene packaging is light, uniform and resistant to moisture. Jute has advantages in renewability, breathability, reuse and biodegradability, but buyers also consider price, strength, handling and compatibility with machines. The industry must demonstrate total value instead of relying only on the natural-fibre image.

The sixth problem is occupational health and safety. Fibre dust, noise, heat, moving machinery, repetitive work and heavy handling create risks. Zanko and Dawson (2012) explain that safety is an organisational responsibility. Machine guards, dust extraction, noise control, training, medical surveillance and worker reporting should be part of normal production management.

The final problem is weak coordination. Different institutions deal with packaging orders, raw-jute procurement, research, diversification, statistics and worker welfare. When programmes are measured separately, it is difficult to know whether better seeds improved fibre grade, whether new machines improved productivity or whether marketing assistance created repeat sales. The sector needs shared outcome indicators.

Data Driven Results

The annual production series gives a clear picture of recent change. Total output fell from 1,633.7 thousand metric tonnes in 2008-09 to 1,043.9 thousand metric tonnes in 2024-25. The end-point decline was about 36.1%, and the approximate compound annual growth rate was -2.8% per year. Average production during the seventeen-year period was approximately 1,289.7 thousand tonnes.

The trend was not a continuous straight decline. Production recovered in some years and reached 1,257.0 thousand tonnes in 2023-24 after falling to 962.7 thousand tonnes in 2020-21. However, output declined by 17.0% in 2024-25. The recovery therefore did not restore the higher production levels recorded during 2008-13.

The results table combines historical structure and current indicators. It shows that West Bengal still has 74.2% of India's reported composite jute mills, but production and product diversity are weak. The figures support the conclusion that the industry remains large in social scale while facing declining output and dependence on traditional goods.

Table 1: Consolidated Results on the Present Position of the Jute Industry

Indicator	Result	Interpretation
Composite mills in India	120 as of December 2025	The organised industrial base remains substantial.
Composite mills in West Bengal	89 mills or 74.2% of India's total	Manufacturing remains strongly concentrated in West Bengal.
Direct industrial employment	Approximately 3.70 lakh workers	The sector remains labour intensive and socially important.

Farm families supported	Nearly 40 lakh families	The main livelihood effect extends far beyond the mill workforce.
Production change	1,633.7 to 1,043.9 thousand tonnes, 2008-09 to 2024-25	Output declined by approximately 36.1%.
Approximate production CAGR	-2.8% per year	The longer production direction is negative.
Sacking share in 2024-25	Approximately 83.0%	The industry remains dependent on traditional bulk packaging.
Latest annual change	-17.0% from 2023-24 to 2024-25	The recent recovery was not sustained.

Source: Compiled and calculated by the author from the Office of the Jute Commissioner (2026) and Press Information Bureau (2026).



Figure 2. Production Trend of Jute Goods in India from 2008-09 to 2024-25.

Source: Prepared by the author from Office of the Jute Commissioner (2026).

Discussion

The historical and statistical evidence presents a mixed picture. The industry has survived colonial change, two world wars, the Great Depression, Partition, market competition and technological change. Its survival is based on the natural properties of jute, a large agricultural base, skilled workers, a concentrated manufacturing region and government support. However, the same historical structure created dependence on bulk packaging, old production systems and centralised institutional decisions.

The industry's problems are connected. Dependence on sacking increases sensitivity to government orders and price competition. Low margins reduce the money available for maintenance. Old machinery increases energy use, defects and safety risks. Irregular production weakens worker income and skill retention. Weak fibre quality increases waste and makes higher-value products more difficult. These problems cannot be solved through a single subsidy or legal order.

Employment should be measured through paid worker-days and regular shifts, not only the number of workers listed on mill rolls. A worker attached to a mill but receiving only a few shifts does not have secure employment. Similarly, reopening a closed mill should not be treated as successful unless the mill has clear ownership, working capital, fibre supply, viable orders, safe machinery and a fair labour agreement.

Policy protection remains important because millions of livelihoods depend on the sector. The Jute Packaging Materials Act provides a stable market and protects cultivators and workers. However, protection should become a base for modernisation. Firms receiving demand or financial support should show improvement in machinery, energy use, worker safety, statutory payments, product quality and diversification.

The environmental advantage of jute must also be demonstrated carefully. Jute is biodegradable, but poor retting, inefficient boilers, untreated wastewater or unnecessary coatings can reduce its environmental benefit. Life-cycle measurement should include cultivation, processing, product use and disposal. Cleaner production can lower cost and strengthen access to environmentally sensitive markets.

Industrial heritage offers another opportunity. Closed mills contain buildings, machinery and community memory that explain the history of industrial Bengal. Martinović and Ifko (2018) show that industrial heritage can support urban regeneration when it is linked with local economic and social goals. Selected mill structures can become training centres, museums, design laboratories, small-production spaces or public facilities. This process should include workers and residents so that heritage conservation does not become land-based displacement.

A further point concerns the meaning of industrial success. Production volume is important, but it cannot be the only measure because a large quantity of low-value sacking may coexist with weak profit, unstable employment and high resource use. A wider performance framework should include value added per tonne, paid worker-days, real earnings, injury rates, energy and water use, diversified sales and repeat export orders. These indicators would show whether the sector is improving its productive and social quality rather than simply increasing physical output.

Historical experience also shows that adjustment costs are not shared equally. Owners may reduce shifts, buyers may change packaging materials and government agencies may revise procurement, but workers and cultivators have fewer immediate alternatives. A fair transition should therefore provide retraining, income continuity, social-protection enforcement and support for farmer organisations. When modernisation raises productivity, part of the gain should finance safer work, skill development and more dependable employment. This approach would reduce resistance to technology because workers would see modernisation as a path to better work rather than only job reduction.

Finally, the Hooghly corridor needs a common evidence platform. Mill status, land use, employment, pollution, housing and transport data are currently held by different agencies. Mapping these data together would show where operating mills need infrastructure, where closed sites can be revived and where heritage-led reuse is more suitable. It would also prevent isolated land decisions from weakening the wider industrial system.

Pathways for Renewal

The first pathway is better raw-jute quality. Certified seed, scientific cultivation, improved retting, transparent grading and market information should be connected with mill requirements. Farmers should receive a clear price benefit for better fibre. Agricultural programmes should report not only land and participant numbers but also yield, grade and income outcomes.

The second pathway is phased technological modernisation. Every mill should measure machine downtime, capacity use, defect rate, energy per tonne and first-pass quality. Investment should first remove the main bottlenecks and safety risks. Operator training and preventive maintenance should be included because new machinery cannot perform well without skill and reliable organisation.

The third pathway is product and market diversification. Geotextiles require engineering standards and public-works demonstrations. Lifestyle products require design, stitching, colour control, branding and retail links. Composites require testing and partnerships with construction or automobile users. Diversification should be measured by repeat orders and contribution to sales, not only by prototypes.

The fourth pathway is secure and inclusive employment. Mills should ensure timely wages, provident-fund and ESI compliance, safe working conditions and fair procedures for contract workers. Women need safe transport, sanitation, protection against harassment, training and representation in committees. Productivity gains should be shared through stable work and skill-based progression.

The fifth pathway is cleaner production and river restoration. Mills should monitor water, energy, fibre waste, air emissions and effluent per tonne of acceptable output. Waste fibre should be recovered where possible. Environmental improvement should be planned across the Hooghly corridor because pollution and drainage do not follow factory boundaries.

The sixth pathway is institutional coordination. The Jute Corporation of India, Office of the Jute Commissioner, National Jute Board, research organisations, state government and local bodies should use a shared performance dashboard. The dashboard should connect fibre quality, mill productivity, employment regularity, safety, diversified sales, exports and environmental performance. Common evidence would help programmes learn from one another and improve public accountability.

Conclusion

The jute industry is one of the most important examples of the relationship between industrialisation, agriculture, labour and urban development in West Bengal. Its growth along the Hooghly was supported by port access, transport, finance, imported machinery and migrant labour. Managing agencies helped organise early industrial expansion, while workers and cultivators supplied the practical knowledge and labour required by the system.

Partition separated the main mill region from important raw-jute areas and forced a major adjustment. Government procurement, cultivation programmes and compulsory packaging later protected the industry. These measures prevented rapid collapse, but they did not fully solve technological stagnation, product concentration, working-capital weakness, unstable employment and environmental pressure.

The data confirm the seriousness of the present position. Production declined by approximately 36.1% between 2008-09 and 2024-25, and sacking represented about 83.0% of output in 2024-25. At the same time, the industry still includes most of India's composite mills, employs about 3.70 lakh workers and supports nearly 40 lakh farm families. It is therefore too important to abandon and too weak to preserve without change.

Renewal requires a connected strategy, Better fibre, modern machinery, working capital, secure employment, occupational safety, cleaner production, diversified markets and industrial heritage regeneration must support one another. The future of jute does not depend only on replacing plastic. It depends on building a reliable industrial system that produces measurable economic, social and environmental value.

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