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Original Article

Reweaving Value Chain with Digital Margins: A Socio-Economic Appraisal of Jute Economy in India

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Abstract

The Indian jute sector employs nearly four million cultivators in eastern India, mainly West Bengal; however, despite the Minimum Support Price (MSP) in place as well as institutional procurement by the Jute Corporation of India (JCI), farmers remain mired in long-term low-income living. This paper analyzes the socio-economic dimensions of the jute economy—cost-return patterns; dependence on intermediaries; access to credit and technology—through the use of secondary data (2012–2024) and primary field interviews. Using a profit framework along with price-spread models, the article finds factors that affect farmer welfare. Results show that limited direct access to markets, low familiarity with digital procurement platforms, and high dependence on input costs help in maintaining income asymmetry. The paper ends with suggestions on digitally-enabled cooperative procurement, micro-insurance, and credit integration mechanisms to increase socio-economic resilience of jute-farming households.

Keywords: *Jute, Socio-Economic Status, Farmer Livelihood, MSP, JCI, Middlemen, Digital Inclusion, Rural Bengal.*

Introduction

Jute is the "golden fibre," and it has long been integral to eastern India's agrarian and industrial economy, particularly along the Ganga–Brahmaputra delta, serving over four million farm families and a vast network of labourers, traders, and mill workers. West Bengal accounts for nearly 75 percent of India's raw jute and dominates national production. While jute may take on economic significance, it is also deeply integrated within rural social life through the cultivation and retting of jute. As the cheapest bast fibre and second only to cotton in global usage, jute is extremely versatile by virtue of its strength, breathability, and insulating properties. It is so versatile, that it can be used in packaging, textiles, geotextiles, furnishings, and burgeoning eco-composite applications. Increasing worldwide concern on plastic pollution and the demand for sustainable materials have reinvigorated global interest in natural fibres. Jute being biodegradable and carbon-positive, stands of potential advantage to fit in. This growing environmental milieu presents unique opportunities for traditional jute-producing communities to reinforce their competitive position in global value chains by promoting jute's eco-friendly and multifunctional nature. Amid this changing landscape, West Bengal (which was once the heartland of jute production and processing) now finds itself in a challenging, yet promising headspace. The state's leadership of raw jute production and trading is no longer the norm but must be reframed and re-implemented to establish its post-emerging leadership role. Constraints to the sector's growth include declining competitiveness, market price variations, and inefficient procurement mechanisms. Nonetheless these same problems can be turned into prospects if strategic measures such as increased productivity, improved links between farmers, and improved trade systems are undertaken.

Modern IT and digital infrastructure in the jute value chain is an effective road to reform through which the transparency, efficiency, and farmer focus of market operations can become higher.

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Such a digital transformation is in line with India's overarching vision for smart agriculture, and of global sustainability, responsible production, and inclusive growth. In the end, the jute industry is at a crossroads — a juncture where environmental necessity converges with technological opportunity. The fiber's own natural benefits, paired with clever innovation and policy support, can position West Bengal and India in general to take the lead to restore green industry to jute so that jute becomes both an icon and an answer to the world's quest for sustainable growth.

Literature Review

India's association with jute traces back centuries, with early records (such as those of Ain-i-Akbari (1590)) mentioning jute being used in rural clothes during Akbar's time. As for examples, archaeological and literary evidence indicates white jute was extensively used in Bengal for everyday products, including ropes and twines. It was in the 17th century that a major shift took place with the introduction of raw jute into the British East India Company, which tied the fibre to global trade. By the late 18th century, growing industrial demand in Europe firmly assimilated Indian jute into international markets under the Company's monopolistic control, creating the basis for a colonial export system.

In the industrial era (1800–1947) the jute used to be treated as a craft fiber, and now it is regarded as the backbone to the global manufacturing industry. The first jute mill was established at Rishra in 1855 by Margaret Donnelly to accelerate mass industrial production, driven significantly by demand from Dundee. By 1910, Indian mills exported more than a billion yards of cloth and 450 million bags from India every year, and by 1940, the number of their mills controlled almost 57% of the world's looms. Geographical location of mills around Calcutta was aided by Bengal's fertile soil, humid weather, riverine transport and widespread workers. But oligopolistic control, state intervention in the business, and exploitative labor practices continued while it was dominated by British capital.

The greatest structural rupture in the jute economy occurred in 1947 with partition. As Bose (1993) points out, Partition generated a geopolitical schism—81 percent of jute production was concentrated in East Pakistan (now Bangladesh), and virtually all jute mills were situated in West Bengal (Ghosh 1999). This spatial dislocation created long-standing shortages of raw materials and erratic price surges. Since the British capital was withdrawn, mill ownership was Indianized but the loss of colonial export markets and weak institutional support meant the industry had little global competitiveness. The post independence era brought protectionist industrial policy to the fore, focusing on price stability and self-reliance. Such solutions had taken through price controls, as well as through institutional arrangements like the Office of the Jute Commissioner (1956) and the Jute Corporation of India (1971), devised with a view of ensuring that growers received compensation for their labor. However, the rise of substitutes of the industrial variety, such as in the 60s–70s, along with strict pricing schedules and technological decline, ushered in a period of protracted declining productivity.

In 1991, economic liberalization triggered a resurgence of challenges as well as reform opportunities. More competition from across the globe laid bare structural weaknesses in that industry and spurred the introduction of modernization projects like the UNDP-supported National Jute Development Programme (NJDP) and the National Jute Policy (2005). Scholars like Moulik and Shukla (2009) argued for product diversification and flexible production systems while there are examples from Pal and Chakraborti (2011), in the form of partially increased productivity but on-going old machines and poor investment quality. Studies by Sadat et al. (2017) recommend development of new technologies to drive productivity. The COVID-19 pandemic created a new layer of disruption. Logesh et al. (2020) did not find statistically significant differences between average prices of jute pre and during the pandemic, however, arrivals into the market increased (due to higher demand for packaging materials). Farmers were insulated from the agri-industrial disruptions, though there was little direct distress but mill workers faced large-scale losses in earnings and jobs as shutdowns and disruptions from migration took their toll.

Recent empirical studies have highlighted the importance of technological capacity and the development of skills in jute sector competitiveness. Collectively, they indicate that the continued competitiveness of the jute economy will rely on ensuring the integration of technological upgrades with institutional reform, skill development and digital connectivity across the value-chain.

Research Objectives

The broad objective is to analyze the socio-economic status of jute farmers and the institutional factors influencing their livelihoods.

Specific objectives are:

- To quantify cost-return structures and evaluate disparities in price realization under different marketing channels.
- To assess how institutional access and digital literacy affect income outcomes.
- To identify policy and technological pathways that can enhance socio-economic resilience.

Research Methodology

The Data Collected for the study are from both Secondary Data and Primary Data. Secondary Data has been collected from various Institutes like Jute Corporation Of india (JCI), Research Institutes like Central research Institute of Jute and Allied Fibres (CRIJAF), Indian Jute Mills Association (IJMA), National Institute of Jute and Allied Fibres

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(NIRJAF), Jute Manufacturers Development Council (JMDC), Reports of Ministry of textiles, Govt of India and other websites like worldjute.com, jutecomm.in.

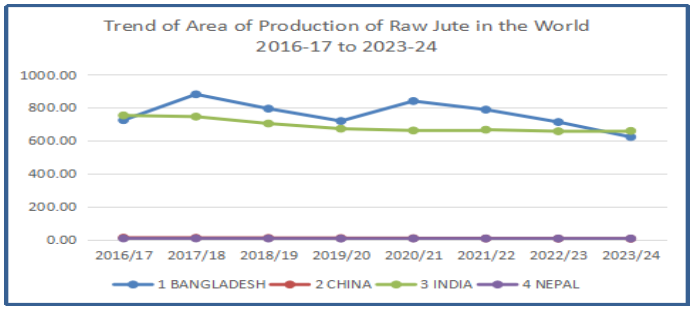
Primary Data has been collected through questionnaires by one-to-one meeting with the farmers of Bagda Sub-Centre and Berachampa Sub-Centre.

For the analysis of the data, R Statistical Package has been used to analyze and represent various Primary and Secondary data.

The secondary data of period from 2014-15 to 2022-23 has been used in most cases whereas the collection of primary data based on the questionnaire spans over a period of 2022– 2023.

2. International and National Scenario of Jute Production

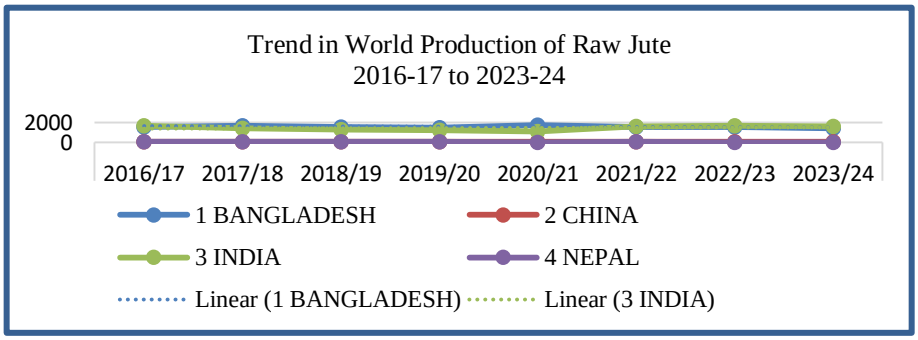
Graph 1: Trend of Area of Production of Raw Jute in the International Scenario



Data Source: Faostat Bulletin 2024

Based on Graph 1, the trend in the area under raw jute cultivation has remained largely stagnant over the past eight years (2015–16 to 2023–24). Such stability has stemmed from the fact that the two leading jute producing countries (India and Bangladesh) have kept their own cultivation areas nearly constant during this period. There are many structural reasons why growth in jute acreage is limited: competition with other crops; fluctuating market prices; and no significant technological advancements resulting in enhanced yield. Consequently, total field production capacity for jute has plateaued across the world for quite some of its cultivation and area.

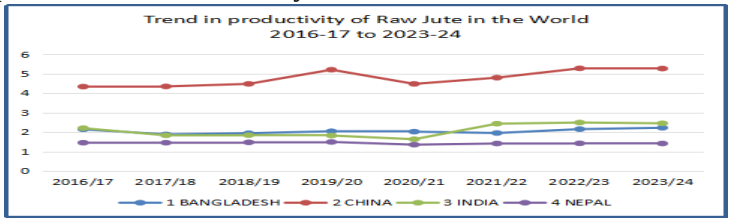
Graph 2 : Trend of Production of Raw Jute in International Scenario



Data Source: Faostat Bulletin 2024

Graph 2 shows that the global raw jute output is exhibiting a moderate downward trend throughout the middle years of the reference period, particularly among the two dominant producers—India and Bangladesh. Even as both countries fluctuated slightly in terms of output, production levels finally stabilized and conformed with stagnation of cultivated area. Production volumes of the smaller jute producing countries have been steady, thus contributing little to the overall variation of supply worldwide. Since production is relatively stable across the globe, it indicates that production has achieved structural equilibrium and that neither substantial technological advancement nor area expansion has influenced the global supply dynamics of raw jute during this period.

Graph 3: Trend of Productivity of Raw Jute in the International Scenario



Data Source: Faostat Bulletin 2024

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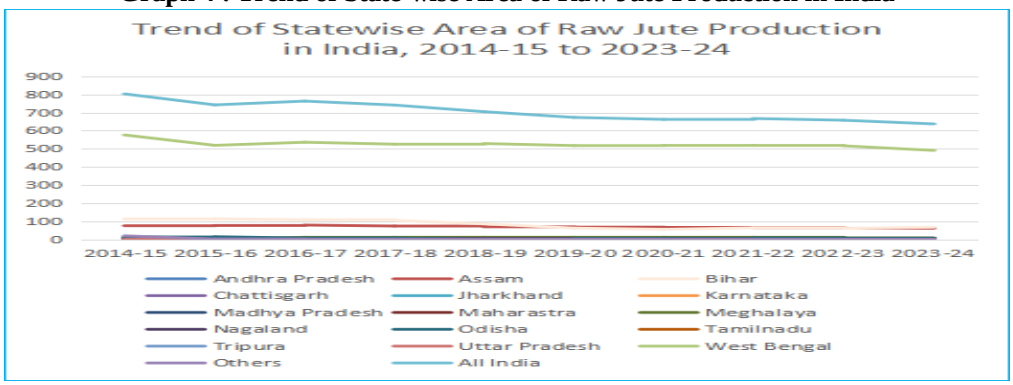
Graph 3 shows that the productivity of raw jute (yield per hectare) has remained virtually constant across all major producing countries throughout the study period. This pattern closely corresponds with the trends of area and total production, suggesting that productivity enhancement has been relatively stagnant. The stagnation in yield indicates that specific targeted interventions (e.g., improved seed dissemination, mechanization, or agronomic innovation) have been lacking or ineffective. By improving productivity, it would be a major incentive for farmers as they could improve profitability as well as cut down costs through economies of scale in production. Thus, without concentrated efforts to raise yield, the jute sector risks long-term stagnation despite stable cultivation and production levels.

National Scenario

Further, if we look State wise in India, the same trend is substantiated with West Bengal being the only major Raw Jute producing State.

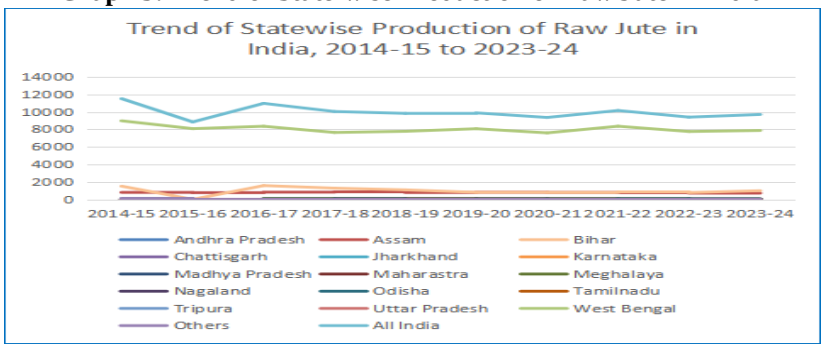
Graph 4 : Trend of State-wise Area of Raw Jute Production in India



Data Source: www.jutecomm.gov.in

Graph 4 The area for jute farming appears to be virtually unchanged in the last decade. West Bengal remains a dominant share (consistently above 70–75 percent of the total jute area in India) with Assam, Bihar, Odisha and Meghalaya making only a marginal contribution. Only small changes can be observed in Assam and Bihar, mostly due to climatic variability and shifting crop preferences. Total Area: The near-horizontal curve for total area indicates no major expansion of jute acreage, indicating farmers' limited incentive to increase land allocation because of unstable market prices and competition from more remunerative crops such as paddy and maize.

Graph 5: Trend of State-wise Production of Raw Jute in India



Data Source: www.jutecomm.gov.in

Graph 5 shows the overall raw jute production pattern from cultivated area only, that is no significant rising or falling over the years. Once again over 80 percent of national production comes from West Bengal. The production levels in other states are nearly unchanged, illustrating that total national output is affected essentially by the production of West Bengal. This consistency of results further implies a lack of yield increases from yield-enhancing intervention or of large technological changes in the production process. Such fluctuations are correlated with years of inconsistent monsoon or floods in the lower Gangetic plains, and recovery over subsequent years suggests cyclical weather-based variation, not structural growth.

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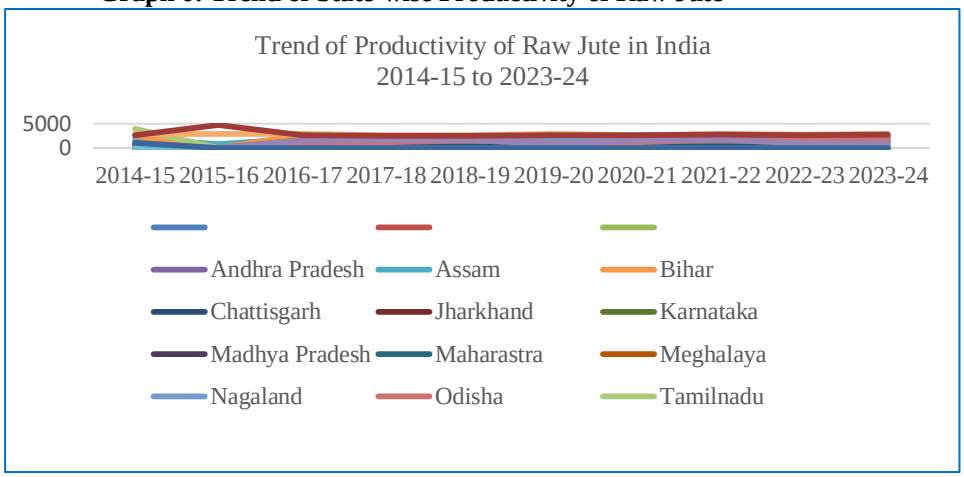
Graph 6: Trend of State-wise Productivity of Raw Jute



Data Source: www.jutecomm.gov.in

According to Graph 6, productivity is stable in most large producing states (yield per hectare) with only year-to-year variability. West Bengal is still enjoying the largest yield to date, may be due to relatively good irrigation, soil fertility. The productivity curves of Bihar and Assam are low and flat. That said, the overall stagnation in productivity is simply mirroring the trend in area and production which clearly sums up that agronomic/mechanization-driven gains of any importance have not occurred in recent years. This illustrates an important policy and technological gap.

Furthermore, fierce competition from the other synthetic alternatives in the international market, the outdated production machinery and cumbersome production process are also factors hindering the jute industry from becoming market competitive. The demand for jute products in the market can only be increased by making the jute products more cost-effective so that they can compete against the other available alternatives in the market in terms of price. This makes the current study a humble attempt towards developing a novel solution to revitalize this sunset industry.

In general, the graphs highlight an important structural flaw in the jute sector of West Bengal, despite its historical and geographical advantages. Targeted policy interventions focusing on yield improvement, technology dissemination, and farmer training may be the reasons behind it. Therefore, questions that need further investigation are shown in the following

Table 1.

Table 1: Areas that Remains to be Explored on the Supply & Demand Side of the Jute Industry

Supply Side	Demand Side
Area under cultivation: Fluctuations in area allocated to jute suggest competition with other crops (paddy, maize, vegetables).	Industry demand: The jute industry's dependence on government orders (sacking, packaging) means market demand is not always stable.
Productivity constraints: Yield stagnancy points to limitations in seed quality, technology adoption, and extension services.	Substitutes: Growing use of synthetic fibers and plastic substitutes erodes demand for raw jute.
Farmer incentives: Minimum Support Price (MSP) coverage and procurement mechanisms often fail to motivate farmers to expand area.	Policy intervention: Demand-side policies such as the Jute Packaging Materials Act are critical, but enforcement remains to be Questioned.

Thus, the stagnation of the production is not just an agricultural issue, but is the result of the interplay of supply-side constraints and demand-side uncertainties. We should understand more about the two sides to see why raw jute production has plateaued, even though West Bengal is the one in command of the crop.

So, if this sunset industry is to be revived, it becomes necessary to increase the cost-effectiveness, quality, and market adaptability of jute products. Against this backdrop, the current study was adopted to provide a holistic framework for investigating and suggesting innovative technology-based solutions, which integrate agricultural and industrial approaches to account for the persistent stagnancy in raw jute production, and to help determine pathways for its revival.

Findings

The Demographic Profile of Jute Farmers:

From demographic point of view of jute farmers, this is a predominantly middle age agricultural group, mostly aged 35 to 55 years. Most households are male-managed, but women tend to take on ancillary farm work like sorting,

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drying and bundling. They are likely to have low to moderate levels of education where a significant proportion have only primary or secondary schooling, which makes it challenging for them to access information, technology and market participation. Farm sizes are often small and fragmented, likely around 0.5 to 2 bighas in average. Jute cultivation is a small-scale affair dominated by small and marginal farmers who rely on family labor and seasonal hired labor. Household income also varies and is constrained by income from agriculture predominantly as the key source. Income from other wage jobs, petty trade, or being migrant workers sometimes act as supplement. Limited access to institutional credit obligates many farmers to rely on informal lenders like mahajons or phorias. In short, the demographic profile is consistent with a resource-poor farming community that is largely devoid of technological information but relies heavily on manual labour and has high exposure to risks from market and climatic uncertainties.

Parameters Influencing Cost of Raw Jute Cultivation:

The economics of raw jute cultivation is mainly depended the material inputs and intensive labour. The cost analysis helps identify the viability of jute farming per unit area (bigha). Main cost heads include land preparation, seed and sowing, intercultural (niren) operations, irrigation, fertilizer, cutting, retting and drying which require specific combinations of labour and input. Land preparation is the most labour intensive of these and employs approximately three labourers per bigha. Seed costs include both purchase and sowing labour, while niren (weeding and intercultural work) is repeated about thrice per crop cycle. Irrigation and fertilizer application both involve material costs and the relatively small labour input; cutting (harvesting) is one of the most labour-intensive activities. Retting (soaking and fermenting the stems) provides a large portion of total costs through water and handling cost. Finally, drying needs about two workers to handle the fibre or to operate drying facilities.

The analysis then quantifies these eight operations to form the entire cost structure for jute farming and to compare the price and contribution of each stage to the overall price incurred for production. This detail serves as the basis for assessing potential areas of cost-saving, mechanization, or targeted policy support to improve profitability and sustainability in raw jute farming.

The following table 2 depicts the story of the cost of Jute cultivation.

Table 2: Interpretations of Cost Components

Cost Component	Statistical/Economic Interpretation
Cost of Preparing Land	Distribution is slightly left-skewed (mean < median). Most farmers spend around ₹2700, with low variation, showing a fairly standard land preparation expense.
Seed Cost	Very limited variability (std ≈ 6% of mean). Reflects a consistent pricing of seeds, perhaps as a result of standardized supply channels. The majority of farmers pay Rs 500 per bigha; a small group have the least cost of seed (≈ Rs 390–450). This could be linked to differences in access to subsidized seed or bulk purchase.
Cost of Niren (Weeding/Thinning)	More variability than land prep. Farmers spend between ₹2100–₹2800, which indicates wage variations and differences in labor availability. Well concentrated at Rs 2800 implying common practice. But some farmers are able to control the costs lower (around Rs 2100–2450), possibly because of their family labour or fewer weeding activities.
Irrigation Cost	Highly stable, nearly identical between farmers. Suggests standardized irrigation practices, minimal efficiency improvement. It hints at a flat-rate payment system for pump usage.
Fertilizer Cost	Slightly more variable, but tightly clustered around ₹1000. Reflects use of standardized fertilizer packages.
Cutting Cost	Wide range of costs, but mean ≈ median → symmetrical distribution. Being labour-intensive, it drives total cultivation expenses and may fluctuate depending on seasonal wage rates and labour shortages.
Retting Cost	Fairly uniform, costs fall within ₹3700–₹4000. Influenced by availability and proximity of water bodies.
Drying Cost	Median = 0, meaning most farmers don't spend (sun drying). A few incur high costs (up to ₹800), raising mean & std.
Total Cost of Cultivation	Tightly clustered between ₹15,050–₹17,900. Suggests strong predictability and consistency of cultivation costs per bigha. The tight interquartile range indicates that cost structures are quite uniform across farms, with limited scope for savings except in labour-intensive operations (cutting, retting).

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Thus the economic implication being farmers operate in a cost-stable but margin-sensitive system. Even a 5–10% shift in labour/drying costs or a dip in MSP could wipe out profits.

Contribution of the Cost Component in Raw Jute Cultivation

The contribution of each cost components are depicted in the following table, where, Contribution (%) = (Average of Component/ Average of Total Cost)×100

Table 3: Cost Components of the Total Cost of Cultivation of raw Jute

Cost Component	Percentage of Total Cost	Insights
Cutting cost	27.4%	They are the two dominant expenses together making up ~50% of total costs.
Retting cost	23.3%	
Niren	16.2%	These two are secondary contributors.
Land preparation	16%	
Irrigation	6.4%	These two together account for only 12%
Fertilizer	5.8%	
Seed	2.9%	Negligible Impact on Total Cost
Drying	1.9%	Though only ~2% on average, acts like a hidden cost shock when it appears (₹800 at once).

- Cultivation economics are heavily labour-intensive (cutting, retting, niren).
- Input-based costs (seed, fertilizer, irrigation) are relatively minor.

Any changes in labour wages or labour availability will have a disproportionate impact on farmer profitability.

Profitability Analysis of the Jute Cultivation:

Subsequently, the Profitability of the Jute farmers are shown in the following Table 4 where the Baseline Assumptions as got from the Field Study with the Farmers are:

a. Average Total Cost per bigha: ₹16,500
b. Average Yield per bigha: 4.5 quintals
c. Selling Price range (market): ₹3,800 – ₹4,000 per quintal
d. MSP : ₹5,050 per quintal

Table 4: Profitability at Different Selling price (As Shared by the Farmers)

Selling Price (₹/qtl)	Revenue (₹)	Cost (₹)	Profit (₹/bigha)	Profit Margin (%)
3,800	17,100	16,500	600	3.5%
4,000	18,000	16,500	1,500	8.3%

At market price, farmers earn ₹600–₹1,500 per bigha which are razor-thin margins.
Thus, Break-even Price = Cost / Yield = 16,500 / 4.5 ≈ ₹3,667 per quintal
If market price drops below ₹3,667, farmers face losses. At ₹3,800, they just scrape above break-even.
As the raw jute cultivation cost structure is heavily labor-based, in particular the cutting cost and the retting cost, which together account for nearly half of the total production cost, any change in these expenses will directly alter the farm's profitability. A 10% rise in the costs of cutting alone will reduce the profit of a farmer by roughly ₹400, and a 10% increase in the cost of retting will reduce the profit by about ₹350. If drying is required, the increased cost of around ₹800 can almost entirely eliminate the farmer's margin at prevailing market prices.
Further, the following Table 5 depicts the scenario comparison (Best vs Worst Case Profits):

Table 5: Best vs Worst Case Scenario of Profitability

Scenario	Cost (₹)	Selling Price (₹/qtl)	Revenue (₹)	Profit (₹)
Worst Case (high drying cost + low price ₹3,800)	17,300	3,800	17,100	–200 (loss)
Baseline Market Case (avg cost ₹16,500, price ₹3,900)	16,500	3,900	17,550	1,050
Best Market Case (avg cost ₹16,500, price ₹4,000)	16,500	4,000	18,000	1,500
MSP Case	16,500	5,050	22,725	6225

Hence,
we observed that,

1. **Cultivation is highly Labour Dependence**
- Cutting and retting dominate costs (~50%).
- Wage inflation or labour scarcity directly squeezes profits.

2. **Risk from Climate & Drying Costs**
- Extra drying cost (~₹800) is enough to turn slim profits into losses at market price.

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- Climate-resilient infrastructure (solar dryers, community drying yards) could stabilise margins.

3. Mechanisation Benefits

- Cutting mechanisation (–20% cost) could increase profits by ~₹900.
- Community retting tanks (–20% retting cost) will lead to +₹770 profit.
- Together, mechanisation can double market profits even without MSP.

4. MSP as Safety Net

- MSP ensures sustainable margins (37% vs 3–8% in market).
- Without MSP procurement, farmers are exposed to price volatility and risk of losses.
- But Farmers don't sell on MSP. If they want to sell to MSP then additional logistic cost will come into play which will erode into the margin gained and then there is the hassle to take the produce to the JCI Procurement Centre.
- Thus, Jute Farmers are fundamentally exposed to price volatility and risk of losses.

Jute farming under current market conditions is barely profitable (3–8% margin). Farmers are highly vulnerable to price volatility, labour costs, and drying shocks**.** MSP procurement transforms the economics, making cultivation viable (38% margin).

Procurement and Consumption of Raw Jute

Jute farmers in West Bengal face a paradox. While the average cost of cultivation per bigha remains stable, the profitability from open-market sales is extremely fragile. Such narrow margins expose cultivators to severe risks from labour cost increases, drying charges, or minor price dips, often pushing them to the brink of losses. The MSP ensures much higher returns, but its benefits depend entirely on effective procurement by the Jute Corporation of India (JCI). Hence, in this section, we will analyze whether JCI's procurement operations are sufficient, timely, and widespread enough to truly safeguard farmer incomes, or whether MSP remains more of a policy promise than a practical safety net.

In this section we have used secondary data set of Procurement on MSP, MSP and Wholesale Price for our study as shown in the following Table 6.

Table 6: Dataset for the Study

	MSP, Market Price and Procurement of Jute in India											
Year	2012 -13	2013 -14	2014 -15	2015 - 16	2016 -17	2017 - 18	2018-19	2019-20	2020-21	2021-22	2022-23	23-24 Octol
Procurement	5.76	2.48	0.29	0	1.04	6.1	1.31	1.46	0.07	0.03	4.24	5.05
Wholesale Price	2622	2757	3128	5053	3880	3768	4413	4733	6858	6375	6066	5492
MSP	2200	2200	2400	2700	3200	3500	3700	3950	4225	4500	4750	5050
Consumption	105	105	82	79	90	79	79	64	75	80	84	95

Data Source: 1. JCI, 2. Office of Jute Commissioner,
3. Directorate of Economics and Statistics, Ministry of Agriculture and farmers' Welfare

a. Procurement of Raw Jute at MSP by JCI

Procurement levels are extremely small when compared to overall jute consumption, indicating that MSP operations exert only a weak influence on the market. Between 2012–13 and 2023–24, average procurement stands at just about 2.29 lakh bales, with the highest value reaching only around 6.1 lakh bales, and in some years—such as 2015–16 and 2021–22—procurement is virtually zero. Given the much larger scale of national production and mill consumption, this volume is negligible. Since procurement represents the quantity actually purchased by the government or JCI at the MSP, its limited size shows that MSP support reaches only a small fraction of farmers, leaving the broader market largely governed by open-market forces rather than policy-backed price stabilisation.

If procurement is low, it means that:

1. Farmers are not selling much to JCI, either because market price > MSP or procurement operations were weak.
2. JCI's role in stabilizing the market is limited (not enough purchase to influence overall prices).
3. Farmers may be selling directly to traders/middlemen instead of MSP channels.
   When procurement is low, the MSP acts more as a notional safety net rather than an effective support. Farmers' income becomes more dependent on fluctuating wholesale prices, not guaranteed MSP.

b. Wholesale Price

Wholesale prices are dynamic and sometimes far over MSP (less need to procure) and it fluctuates a lot. Analysis of wholesale jute price from 2012-13 to 2023-24 indicates that it is a highly volatile market its price predictability very weak. The average wholesale price of this period is ₹4,595, although the standard deviation is as high as ₹1,419, which is close to 30% of the mean, suggesting a high level of year-to-year volatility. Prices bounced between the low of ₹2,622 in 2012–13 and high of ₹6,858 by 2020–21. Wholesale price, for instance, soared from ₹3,128 in 2014–15 to ₹5,053 in 2015–16 before falling to ₹3,880 in 2016–17, which then rocketed again to ₹6,858 in 2020–21 before finally again falling to approximately ₹5,492 by 2023–24 (October). Such instability has serious ramifications for the entire jute value chain. Farmers find their income highly unpredictable, cannot forecast production

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or even household finances. Mills confront similar issues like volatile raw jute prices adding up complexity to cost projections and inventory forecasting. On the policy level, we can see weak price stabilisation mechanisms and how MSP has failed to prevent sharp swings in the open market.

c. Minimum Support Price (MSP)

MSP policy creates a stable floor but does not fully stabilise the market. The minimum support price (MSP) of raw jute has been on an upward trajectory for some time, starting at ₹2,200 in 2012–13 and 2013–14, and gradually increasing at intervals of one to two years, eventually reaching ₹5,050 by 2023–24. Of particular note, there are no downward revisions, reinforcing the observation that MSP is not a market-directed outcome but rather an administratively determined policy tool. The sustained upward increase highlights the government's desire to synchronise the support price with increasing cultivation. The rising rate of changes is also an indication from policy of the government's continued commitment to farmer welfare and income stability. On the positive side, the farmers are always ought to get at least a somewhat higher benchmark each year. But, since procurement is very low, the MSP increase is often symbolic. The government continues to increase the guaranteed floor price year on year, but it is not enough since farmers don't always stand to gain in absence of strong procurement by JCI.

d. Consumption

Consumption stability shows that mills' demand remains strong even when production/procurement is volatile. The raw jute consumption by mills has consistently shown a pretty good amount of stability, with fluctuations within a narrow band of 64–105 lakh bales and the coefficient of variation of about 14%. This strength of demand signals that mills need raw jute to sustain their production lines even when procurement is weak or production may change due to weather. Both production and procurement show dramatic volatility. JCI procurement especially varies with its coefficient of variation of approximately 101% and procurement even drops to zero in some years. Despite such unpredictable behaviour, mills manage to obtain the raw jute they need, which they procure through private traders and open market channels, especially when JCI procurement is low. Economically, that mirrors the very inelastic nature of mill demand because they need to keep operating to meet orders for gunny bags, sacks, and other jute products, most of which are mandated to be produced under the law. Thus, consumption does not fall suddenly reflecting a resilience in the mill-level demand of Raw Jute in the value chain.

In simple terms:

- Farmers face uncertainty in sales (since JCI procurement is inconsistent).
- But mills always need raw jute, so their demand remains steady.
- This "stability of demand" contrasts with the "instability of supply/procurement."

Price Spread Analysis

Within this context we looked for the Price Spread, that is, the difference between what the consumer pays and what the farmer receives in order -

a. To measure market efficiency, that is, how much of the final price actually goes to farmers vs. intermediaries.

b. To identify middlemen's margins (phorias).

c. To evaluate whether policy interventions (like MSP, procurement) reduce unfair spreads.

d. To highlight areas where farmers are losing value in the supply chain.

In short, price spread analysis tells us: who captures what share of the consumer's rupee.

Table 7: Margin by Farmer and Middlemen at different Scenarios

Scenario	Cost (₹)	Selling Price (₹)	Profit = Price − Cost (₹)	Margin on Cost (%)	Middleman's Margin (WSP − ASP) (₹)
Farmer Actual (ASP)	3,667 (Average)	3,918 (Average)	251	6.8%	—
MSP Level	3,667	5,050	1,383	37.7%	—
Wholesale (WSP)	3,667	5,700	2,033	55.4%	1,782

General observations as learned from the above table 7, categorically, are that:

1. Farmer's Profitability
   - At ASP, farmers earn only ₹251/quintal, i.e., a very thin 6.8% margin.
   - At MSP, they should have earned ₹1383/quintal.
   - At WSP, they could have earned ₹2033/quintal.
2. Middleman's Margin
   - Middlemen capture ₹1782/quintal, which is 7 times the farmer's actual profit.
   - This margin comes because farmers sell below MSP and far below WSP.

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3. On a cost basis, the farmer's realized margin is just 6.8%, while the middleman's capture equals 48.6% of the farmer's cost.
4. This shows that for every ₹100 spent on producing jute, the farmer keeps less than ₹7, while the middleman pockets nearly ₹49.
5. If procurement enforced MSP, farmer's margin would rise to 37.7%, reducing middleman power drastically.

Thus, the existing policy implication are (1) If procurement by JCI at MSP, covered more farmers, this margin could flow back to farmers as higher incomes and (2) the spread clearly demonstrates the exploitative role of phorias/traders.
The analysis of the price spread shows that farmers receive only about 68.7% of the wholesale price (average selling price of ₹3,918 against a wholesale price of ₹5,700) while middlemen capture the remaining 31.3%. In practical terms, this means that for every ₹100 paid by mills or wholesale buyers, farmers receive just ₹69, with intermediaries absorbing ₹31 as margin.
Efficiency Gap:

- A 31% price spread is considered very high and in efficient in agri-marketing systems. A spread of 10–15% would have been understandable.

This imbalance further shows how the marketing channels work in favor of intermediaries. Weak purchasing in turn forces farmers to rely more on phorias who exploit the gap between MSP and WSP.

According to the Price Spread Analysis, inefficiency in procurement facilitates middleman dominance in the raw jute marketing chain. Though MSP serves as a safety net, farm gate price is low forcing farmers to lose a lot of value to the middlemen at the gate. In terms of cost, the farmer's realized margin is just 6.8%, while the middleman's share equals to 48.6% of the revenue if the raw Jute is sold in the Wholesale Market.

Insights and Strategic Interventions

A significant finding which emerges from the primary data analysis is the huge difference in prices of jute, as seen between the selling price the raw jute by the farmers, and the price at which the jute mill owners buy. West Bengal's raw jute market is seen as highly unorganized, volatile and heavily intermediated, particularly by those who do not contribute much value in the process of production or marketing. This discrepancy stems from the accumulation of several market intermediaries (commission agents, local traders ("phorias") and stockists all contributing markups without any commensurate provision of added value.
This relationship can be expressed as follows:
$SPF = CPF + MUF$ whereas, $BPM = CPF + MUF + MUM$
Where:

- SPF = Selling Price of the farmer
- BPM = Buying Price paid by the mill owner
- CPF = Cost Price incurred by the farmer
- MUF = Mark-up (profit) earned by the farmer
- MUM = Mark-up captured by intermediaries

MUB (intermediary mark-up) is the only reason that drives the price gap between producer and mill-level procurement. These multi-level marketing channels with many hand-offs and speculative storage practices not only increase procurement costs for mills but also decrease the competitiveness of jute and jute products in both domestic and international markets.

Here, it is important to know about the existing marketing chain of raw jute in West Bengal, which basically involves farmers → local traders → commission agents → wholesalers → jute mills. Each stage adds to increasing prices, but not necessarily increasing quality or efficiency. Later on, a schematic representation with detailed study of this marketing structure with the aim of identifying its inefficiencies and potential reform areas is detailed.

Existing Marketing Chain of Raw Jute in West Bengal:

Once produced, raw jute is transported to the jute mills for processing. But the process from the farm to the mill has several layers of intermediaries as shown in Figure–6.1. It is known that the marketing chain can be broadly divided into Primary Market, Secondary Market, and Jute Mills. The 1st step (Primary Market) connects the mill to the farm. Also, the Jute Corporation of India (JCI) has a parallel procurement network.

The jute marketing chain starts at the primary market (village hat) where farmers sell raw jute to small intermediaries such as phorias and sub-brokers within an unorganized, price-volatile environment with minimal direct JCI involvement. In the secondary market, larger phorias, mahajons, brokers, and stockists dominate with soaring prices caused by multiple layers of handling and speculative margins without any involvement of the farmer. Jute mills serve as the terminal stage, purchasing predominantly from godown owners, large stockists, or JCI; raw jute typically takes around 30 days to traverse from primary markets to mills—no farmer access again. Alongside the chain is the JCI procurement network whereby JCI acquires raw jute from farmers at the MSP and sells it to mills with the help of the Jute Baler's Association, but farmers continue to participate sparingly as open-market prices at their local phorias often exceed the MSP.

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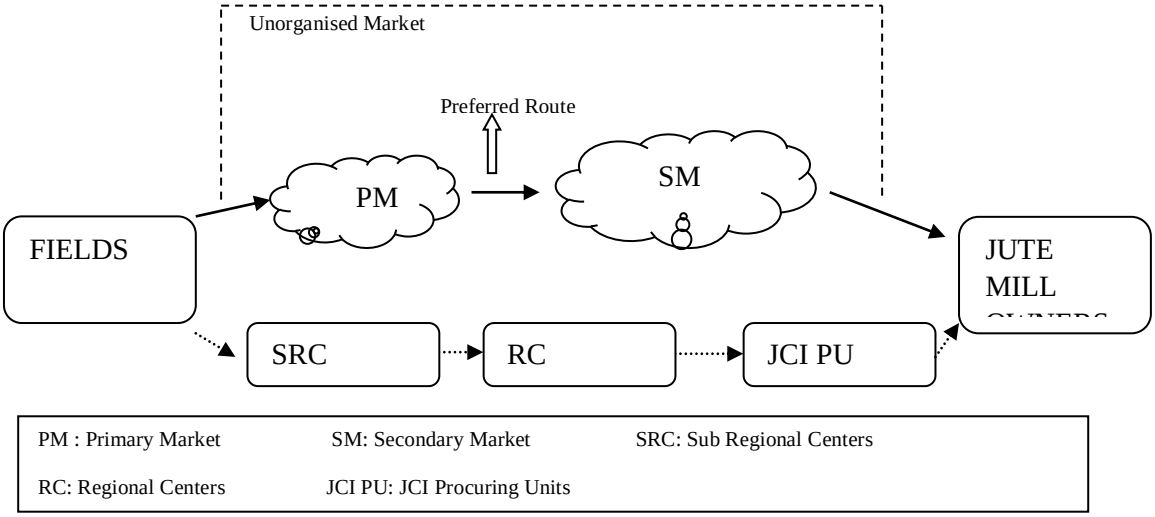

Figure 1: Existing Marketing Model
Source: Designed by the Researcher

Table 8: Suggested Policy Matrix for Strengthening the Jute Sector in West Bengal and India

Policy Area	Key Recommendation	Responsible / Implementing Agencies	Time Frame	Expected Outcomes
1. Digital Literacy & Access	Launch mobile-based digital literacy campaigns for farmers on e-procurement platforms; provide subsidized data packs and local-language training modules.	Ministry of Textiles (MoT); Jute Corporation of India (JCI); National Informatics Centre (NIC); State Dept. of Agriculture; NGOs	Short-term (1–2 years)	Improved farmer participation in digital trade; enhanced transparency; reduction in middlemen dependency; faster price discovery.
2.Strengthening Farmer Producer Organizations (FPOs)	Facilitate new FPO registration and strengthen existing ones through capacity-building, revolving funds, and direct linkage with mills and JCI procurement centres.	NABARD; SFAC (Small Farmers' Agri-Business Consortium); MoT; State Co-op Dept.	Medium-term (2–4 years)	Collective bargaining power; reduced trader monopsony; economies of scale in marketing and inputs.
3.MSP-Linked Direct Benefit Transfer (DBT)	Integrate digital payment systems with MSP procurement to enable real-time settlement via Aadhaar-linked bank accounts or mobile wallets.	MoT; JCI; Ministry of Finance; NPCI (BHIM / UPI interface); State Treasuries	Short-term (1–2 years)	Timely and transparent MSP payments; elimination of payment delays and leakages; increased farmer trust in institutional procurement.
4.Women's Cooperative Credit Schemes	Create women-centric cooperative credit units recognizing their contribution in retting, sorting, and fibre handling; offer concessional loans, micro-insurance, and entrepreneurship training.	NABARD; NRLM (National Rural Livelihood Mission); MoT; State Women & Child Development Dept.	Medium-term (2–5 years)	Financial inclusion of women workers; empowerment through ownership and income recognition; gender equity in jute value chain.
5. Integrated Rural Infrastructure	Establish decentralized retting tanks, fibre grading	MoT; JCI; CRIJAF; State Rural	Long-term (4–7	Improved fibre quality and

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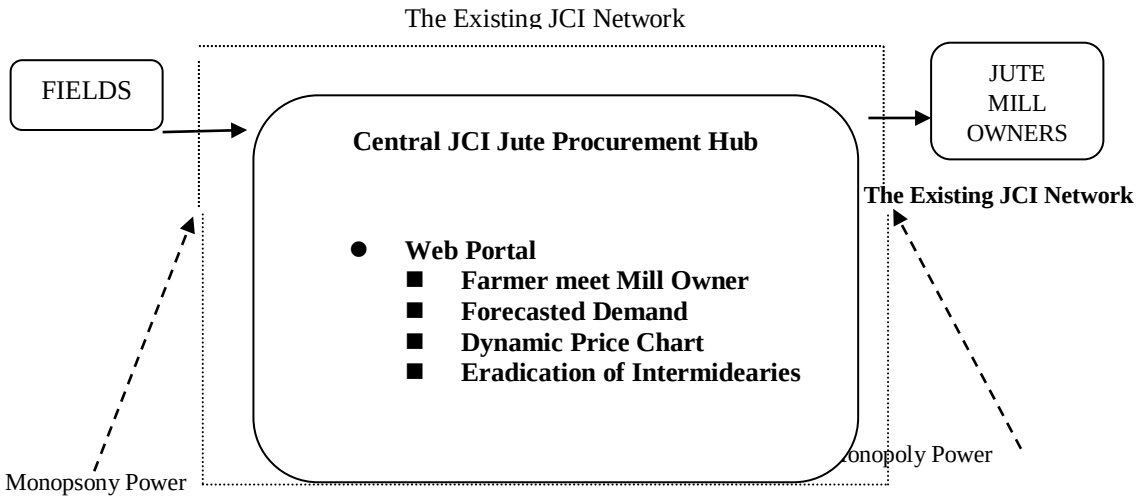
	centres, and storage godowns at block or panchayat level through PPP models; link with digital traceability systems.	Development Dept.; Local Panchayats; Private Partners	years)	consistency; reduced post-harvest losses; localized value addition and better market access.
6.Research, Extension & Mechanization Support *(optional expansion)*	Strengthen CRIJAF and KVKs for developing region-specific high-yield seed varieties, low-cost retting technologies, and jute-specific mechanization kits.	ICAR-CRIJAF; MoT; State Agriculture Universities; KVK network	Ongoing / Long-term	Increased productivity and cost efficiency; diffusion of innovation; sustainable yield improvement.
7. Alternate E-Marketing Model	JCI : The Aggregator Platform with full monopoly and full monopsony power	Jute Corporation of India (JCI)	Long-Term	Eradication of Intermediaries

In order to integrate all these solutions into an integrated system, we identify an alternate E-Commerce and E-Marketing Model for Raw Jute built on the idea of Central Jute Technology Hub, a systemic transformation to alleviate the existing inefficiencies, price distortions, and environmental concerns within the raw jute supply chain.

So, we imagined a centralized web-based portal that will act as a virtual Jute market and will bring in all the stakeholders of the raw jute ecosystem collectively— the farmers, Jute Corporation of India (JCI), and jute mills—into a single digital value chain. The platform would pool district- and block-level information about jute production, registered farmers and their cultivable land, and the geolocated database of purchase units, JCI offices, storage godowns and registered mills arranged by proximity to producing areas. Business analytics engine would predict raw jute demand, set farmers indicative production targets, and calculate dynamic data-based pricing. Farmers would record production amounts on the portal itself, and mill owners would be able to see the availability and order from published prices via a real online portal. It would facilitate access to online payments, route optimization for logistics and real-time access to registered transporters.

The portal will also serve as an information hub, spreading weather forecasts, updated techniques for cultivating crops, innovative mechanization methods and eco-friendly techniques - letting farmers plan efficiently and in a sustainable way how much to make.

Figure 2: The Proposed Alternative Model of E-Marketing



Source: Designed by the Researcher

Concluding Remarks

To conclude, due to its declining market competitiveness in the face of cheaper synthetic substitutes, the jute industry in West Bengal has been in a long-term state of stagnation over recent decades. Traditional practices still dominate the production of raw jute and it remains highly sensitive to natural factors such as temperature and rainfall, making it vulnerable to climatic uncertainties. Additionally, the production and marketing chain available is time-consuming and cost-inefficient, causing high raw jute prices.

The study proposes several entrepreneurial and institutional interventions at different stages in marketing of raw jute to make up for these inefficiencies. Strategic intervention, technological integration and tightened institutional

mechanism, especially through an empowered Jute Corporation of India (JCI), would boost the sector's spirit and improve efficiency in costs. This way the historical prominence of West Bengal's jute industry can be restored leading to a new era in the jute sector of India.

References

1. Bagchi, A.K. (1972). "Private Investment in the Jute Industry in India" in Bagchi, Private Investment in India: 1900-39 (Cambridge: Cambridge University Press), 262-90.
2. Banik and Ghosh (2008). Phenolytic activity of microorganisms in pilling of jute, Indian Journal of Fibre & Textile Research; 151-156;
3. Basak, K. (1997). "Stagnation of the Indian Jute Industry: A Re-examination of Major Hypothesis", PhD Dissertation (Calcutta: University of Calcutta).
4. Basu, G., Sinha, A.K. and Chattopadhyay S.N. (2005). Properties of Jute Based Ternary Blended Bulked Yarns. Man-Made Textiles in India. 48: 350-353.
5. Bhaduri, A. (2002). "Nationalism and Economic Policy in the Era of Globalisation" in Deepak Nayar (ed.), Governing Globalisation: Issues and Institutions (New York: Oxford University Press).
6. Bose, S. (1993). Peasant Labour and Colonial Capital: Rural Bengal Since 1770. Cambridge University Press Cambridge (United Kingdom).
7. Ghosh, T. (1999). Income and productivity in the jute industry across the 1947 divide. A case for labour history, 54–81.
8. Karthik, G. and Ramya, N. (2012). Swot Analysis of Indian Jute Industry, Indian Streams Research Journal, Volume 2.
9. Kohli, A. (2004). State-Directed Development Political Power and Industrialisation in the Global Periphery (UK: Cambridge University Press).
10. Islam Md. M. and Ali Md. S. (2018). Industrial Research Advances of Jute in Bangladesh. International Journal of Agricultural and Biosystems Engineering. Vol. 3, No. 1, pp. 1-9
11. Moulik, T. K., Shukla, P. R., Jayanth, R. and Varma, J. (2009). Rejuvenation of Jute Industry: Role and Potential of Diversified Products. In: IIMA Working Papers. RePEc:iim:iimawp:wp00939
12. Pal, A. and Chakroborti, P. (2011). Indian Jute Industry in the Globalisation Era: Structure and Performance , Economic & Political Weekly, Vol no 10.
13. Logesh, M., Paul Mansingh, J., and Nisha, A. (2020). Effect of COVID-19 Pandemic on the Market Price of Jute in India. Current Agriculture Research Journal. ISSN: 2347-4688, Vol. 8, No.(2) 2020, pg. 89-97.
14. Sadat, A., Ghosh, S. K., and Chakraborty, K. (2017). Impact of training on knowledge and adoption of jute technology in Uttar Dinajpur district of West Bengal, India. Indian Res. J. of Ext. Edu., 17 (2) : 73 – 77.

Reports

Report on price policy of raw jute (2009-10). Commission for agricultural cost and price, GOI.

Web References

Sl. No.	Websites
1	http://www.worldjute.com
2	http://www.jutecomm.gov.in
3	http:// www.jci.gov.in