

Original Research Article

Jute sector development – The need of linkage between research, farmers and industry

Abstract

A research study was conducted in four major jute growing districts of West Bengal to analyse the problems in jute sector as a whole and to frame a model for the effective functioning of the jute sector. The major constraints faced by the farmers in profitable jute cultivation (n=120) was analysed using rank based quotients which indicated that High cost of labour (2), Middle men (3), Lack of knowledge about fibre grades (4), Non availability of labour (5) were the major constraints. Similarly the major constraints experience by the jute industry were Lack of availability of labour (0.99) scored highest followed by Labour cost (0.86), competition from synthetic products (0.68), lack of demand (0.63) etc Industries views on jute fibre production and procurement showed that 86.5 per cent of the respondents were of the opinion that retting method to be improved so that no part of the fibre goes as wastage. Most of the respondents (78.5%) had opined that there should be more participation from state government. After analysing the existing linkage, a new model for the better performance of the jute sector is suggested involving all the stake holders at the end of the study.

Key words: Jute, farmers, industry, research, linkage

Comment [U1]: You can still reframe this title. My suggested title "Jute Production: The need for Linkage among Research, Farmers and Industries in West Bengal, India".

Comment [U2]: Use "the".

Comment [U3]: In my o

Comment [U4R3]: in my opinion, I think it should be jute farmers and not just farmers.

Comment [U5]: You may use "production" instead.

Comment [U6]: Use "unavailability of labour".

Comment [U7]: Use "experienced"

Comment [U8]: Use "unavailability of labour".

Comment [U9]: Use "cost of labour".

Comment [U10]: Use "among others".

Comment [U11]: Put a full stop (.) before the word Industries.

Comment [U12]: Use "State".

Comment [U13]: I think it should be "Jute production" and not jute sector.

Comment [U14]: Use "was".

Comment [U15]: Use "stakeholders"

Comment [U16]: Use "Jute farmers".

Comment [U17]: Use Jute industry.

Comment [U18]: You can add West Bengal to your keywords.

23 Introduction

24 Jute and allied fibres is a group of natural fibres which have tremendous economic
 25 and trade importance particularly in west Bengal. It supports nearly forty lakh families and
 26 provides employment to about 2.6 lakh industrial workers besides livelihood to another 1.4
 27 lakh persons in the tertiary sector and allied activities. Jute is the cash crop for the poor and
 28 the marginal farmers in India and it continues to be an important commodity for employment
 29 and source of income for them. The jute agriculture was adversely affected after partition of
 30 India. To meet the demands of the industry, production of jute and allied fibres has to be
 31 increased. Two important means for it was to increase the productivity and to increase the
 32 area covers under jute. With the continuous efforts of the scientists as well as the special
 33 programmes for jute implemented by the Government, the area and productivity of jute had
 34 increased. Even then the jute sector could not be revived to the fullest extent. The industry
 35 faces stiff competition from its cheaper substitutes and is beset with many problems. The
 36 farmers on the other hand are not receiving remunerative prices for the fibre produced. It is
 37 high time that the problem to be sorted out to the extent possible and bring back the past
 38 glory of jute. Here comes the necessity of close linkage between the stake holders in uplifting
 39 the jute farmers as well as industry. The present study was designed with the following
 40 objectives

- 41 1. To analyse the constraints faced by the farmers in profitable jute cultivation
- 42 2. To analyse the constraints faced by the industry in jute procurement,
43 processing and marketing
- 44 3. To develop a model for strengthening the jute sector

Comment [U19]: Use "Jute and allied fibres formed a group of

Comment [U20]: After West Bengal, Include "India".

Comment [U21]: Firstly, give the meaning of "Lakh" for non Indian readers to understand.

Comment [U22]: Use "have".

Comment [U23]: Use "covered".

Comment [U24]: Add "production".

Comment [U25]: Add "tremendously".

Comment [U26]: Use "even though".

Comment [U27]: Use "jute production".

Comment [U28]: Use "faced".

Comment [U29]: Delete

Comment [U30]: Add "production".

Comment [U31]: Use "stakeholders".

Comment [U32]: Use "jute production"

Comment [U33]: The objectives of this study should not be itemized but let it flow in a single statement separating each objectives with a comma.

47 Methodology:

48

49 Survey method was used to collect **data** from **farmers** as well as **industry**. Data were collected
 50 from farmers of five villages one each from the major jute growing districts which include
 51 Nadia, Murshidabad, North 24 Paraganas, Hooghly and Malda. **Farmers** were selected
 52 randomly from each village which constitutes to a total sample size of 100. **In case of**
 53 **industry**, stratified random sampling method was used to select the industries on the basis of
 54 jute exports as well as internal consumption. Looking into the nature of **research problem**,
 55 Expost facto research design was selected as the present investigation **deals** with a
 56 phenomenon which has already occurred.

Comment [U34]: Replace with "data".

Comment [U35]: Use jute farmers

Comment [U36]: Use "jute industry".

Comment [U37]: Use "jute farmers"

Comment [U38]: How many jute farmers were selected randomly from each village to give 100 jute farmers in all?

Comment [U39]: Reframe as "In the case of jute industry"

Comment [U40]: You did not specify the main research problem of this study?

Comment [U41]: Use "dealed".

57 Results and discussion

58 **Constraints faced by farmers in profitable jute cultivation**

59 The major constraints faced by the farmers in profitable jute **cultivation** were listed by
 60 **respondents** and then constraints were again given to the respondents for ranking **it** based on
 61 their severity. **Rank based quotient** was then calculated using the **formula developed by**
 62 **Sabaratnam, (1988)** and the results are presented on Table 1 .

Comment [U42]: Reframe this as "Constraints faced by jute farmers in profitable Jute Production"

Comment [U43]: Use "production"

Comment [U44]: Add "the"

Comment [U45]: Add "jute farmers" in bracket.

Comment [U46]: Delete this and replace by "which is".

Comment [U47]: Use "Rank Based Quotient (RBQ)".

Comment [U48]: Show the equation of the formula here.

63 The highest ranked constraint was lack of organised market (RBQ 92.15). Many times
 64 the farmers had to sell their product below minimum support price in order to meet their daily
 65 home requirements. This distress sale had resulted in **lose** of interest and confidence in jute
 66 farming. The second major constraint reported by farmers **were** **high cost of labour**(RBQ
 67 90.76). the labour charges had increased considerably since last few years but the price
 68 received for jute fibre by the farmers had not increased proportionately. This gap had
 69 remained **as** a major constraint. The third constraint as per the RBQ (89.65) was **middle man**.
 70 The major chunk of the profit is being obtained by the **middle man**. Unless this practice is

Comment [U49]: Replace with loss

Comment [U50]: Use was.

Comment [U51]: Delete

Comment [U52]: Use "middlemen"

Comment [U53]: Refer to comment 53

71 brought under control the jute farmers are going to suffer in future also. Many farmer had
 72 very less knowledge on the grading system of jute. This lack of knowledge is being exploited
 73 by the middle man and obtain quality fibre from farmers at low price. This can be controlled
 74 to an extent by educating the farmers on the grading system of jute fibre. The fifth ranked
 75 constraint(RBQ 79.93) was non availability of labour especially during retting operation. Jute
 76 is a labour intensive crop where the majority of labour is required for weeding operation
 77 followed by retting. The labour requirement druring weeding is addressed by the introduction
 78 of nail weeder in jute which had resulted in drastic reduction of the number of labour required
 79 for weeding operation. But the labour requirement during retting operation is apparent which
 80 needs to be addressed. The non availability of labour during the retting period also result in
 81 high cost of labour for the retting operation. The other constraints were related to water
 82 crisis, pest and disease attacks etc. The studies of Hussain, et al. (2002) , Kakoty & Bora,
 83 (2011) Deka & Sarma (2012), Ghimire and Thakur, 2013, Das & Chanu (2016) confirm the
 84 above results

86 Constraints faced by the industry in jute procurement, processing and marketing

88 A study was conducted on constraints faced by industry in order to assess the actual problems
 89 faced by jute sector as a whole. The listed constraints by the industries were further ranked by
 90 them. These ranks were quantified by using Rank Based Quotient method. The results are
 91 presented in table 2.

92 The results indicated that the jute industry also face constraints but different from that of
 93 farmers in many aspects. (Table 2). Among the constraints listed, Lack of availability of

Comment [U54]: delete

Comment [U55]: use farmers.

Comment [U56]: Use "low"

Comment [U57]: Delete and replace by "and this is being....." You can remove the full stop in front of jute.

Comment [U58]: Refer to comment 53

Comment [U59]: Use "checked"

Comment [U60]: Delete.

Comment [U61]: Use "unavailability "

Comment [U62]: Use "during".

Comment [U63]: Refer to comment 61.

Comment [U64]: Delete and replace with "among others".

Comment [U65]: This should be italicized.

Comment [U66]: Do not use sign but use word "and"

Comment [U67]: 66

Comment [U68]: Put this in bracket.

Comment [U69]: Refer to comment 66

Comment [U70]: You can reframe this as "Constraints faced by Jute Industry in Procurement, Processing and Marketing"

Comment [U71]: Use "the"

Comment [U72]: Can you just say something about this RBQ for the benefit of your would-be readers that may be seeing it for the first time.

Comment [U73]: Use "faced"

Comment [U74]: Add jute

Comment [U75]: Replace with "unavailability"

94 labour (0.99) scored highest followed by Labour cost (0.86), competition from synthetic
95 products (0.68), lack of demand (0.63), Middlemen (0.57) and Lack of availability of quality
96 fibre (0.54). The study confirms the report of Singh, 2004 and Banik, S & Shil, P (2014).

Comment [U76]: Add "closely"

Comment [U77]: Can use "cost of labour"

Comment [U78]: Use "unavailability"

Comment [U79]: Put this in bracket.

Comment [U80]: Refer to 66

97 **Linkage model for enhancing the performance of jute sector**

Comment [U81]: Use "production"

98 The existing linkage between research, farmers and industry was studied by participant
99 observation and group discussions with the research stations, farmers and industry (fig 1),
100 the constraints faced by the farmers and jute industry were also studied and based on this, a
101 new model is suggested for the better performance of the jute sector in fig 2. The existing
102 linkage analysis revealed that there is a wide gap between research, farmers and industry. The
103 technologies from research station had been disseminated only to few villages in and around
104 each extension centres. To bridge this gap the effective collaboration and functioning of state
105 level extension systems in dissemination of technologies is suggested.

Comment [U82]: Delete and replace with "among"

Comment [U83]: Delete.

Comment [U84]: Add "proposed".

Comment [U85]: Use "was".

Comment [U86]: Use "was".

Comment [U87]: Use "among"

Comment [U88]: Delete.

Comment [U89]: Use "was".

106 The linkage between farmers and industries is mainly through middlemen. Because of this
107 existing linkage farmers get poor price to the product irrespective of the quality. Lack of
108 better price for better fibre quality restrain farmers from adopting new technologies
109 demonstrated by the research institute. The relation between farmers and industries can be
110 improved by avoiding the middle man and by forming Farmers Interest Groups or
111 Commodity Interest Groups. These groups can be trained on grading of fibres and can be an
112 effective link between farmers and Industry. Most of the Jute mills also accepted to procure
113 jute from such groups provided they are well trained on grading and supported by any
114 government source like Jute Corporation of India.

Comment [U90]: Refer to 89

Comment [U91]: Add "jute".

Comment [U92]: Use "appropriate" or "normal".

Comment [U93]: Use "restrained".

Comment [U94]: Refer to 66

115 The linkage between research and Industry is very scanty. The relation is limited to
116 processing technology related information. A strong linkage where both fibre quality related
117 and processing technology related information or feedback sharing is very much required for

Comment [U95]: Use "weak".

Comment [U96]: Replace with "relationship".

118 overall growth of the jute sector. By considering all the above aspects, a linkage model is
119 suggested for the better performance of the jute sector.(Fig-2).

Comment [U97]: Use "was".

120

121 Conclusion:

122 Jute is a commercial fibre crop which plays a significant role in the economy of Asian
123 countries especially India and Bangladesh. Raw jute was considered as a source of raw
124 material for packaging industries only. But it has now emerged as a versatile raw material for
125 diverse applications, such as, in the textile industries, in the paper industries, in building and
126 automotive industries, use as soil saver, use as decorative and furnishing materials, etc. Raw
127 jute being bio-degradable and annually renewable source, it is considered as an environment-
128 friendly crop. For the sustainability of jute sector, it is required to keep both the farmers as
129 well as jute industry sustainable. This can be done by addressing the constraints experienced
130 by the jute growers and jute industry to an extent. The model suggested for the better
131 performance of the jute sector can be executed with the cooperation of all the stake holders
132 involved like the farmers interest groups /commodity interest groups, state level extension
133 agency, research system, jute industry etc. The model developed from the study will throw
134 some light on strengthening the jute sector through emphasizing the role of various stake
135 holders in the jute sector.

Comment [U98]: Provide reference.

Comment [U99]: Use "will shed more light".

136 References

137 Sabaratnam,V.E. (1988). Manual on field experience training for ARA scientists, National
138 Academy of Agricultural Research Management, Rajendranagar, Hyderabad (A.P.).

139 Kakoty, G. & Bora, D. (2013). Impact of emerging channels in agriculture, report by Agro
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Comment [U100]: Refer to 66

141 Das, M. & Chanu, L. A. (2016) Farmer's Share in Consumers' Price in Jute Marketing With
142 Reference To Jute Farmers of Barpeta District of Assam, *Indian Journal of Applied Research*, 6(4):
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Comment [U101]: Refer to 66

144 Deka, P. & Sarmah, D. (2012), Constraints and prospects of agricultural marketing in North-
145 east India, *International Journal of Commerce and Business Management*, 5(2): 145-151

Comment [U102]: Refer to 66

146 Ghimire, T. B., Thakur, N. S. (2013). Constraint and opportunity of raw jute production: A
147 case study of eastern Terai, Nepal. *Agronomy Journal of Nepal*, 3, 117-122.

Comment [U103]: Put "and" here.

148 Hussain, M., Rahman, M., Uddin, M. N., Taher, M. A., Nabi, M. N., & Mollah, A. F. (2002).
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Comment [U104]: Refer to 66

151 Singh, B.N.P. (2004), *Indian Economy Today: changing contours*, Deep and Deep publications
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154 2012-13: pattern and performance, *International Journal of economic and business review*, 2(11):181-
155 187

Comment [U105]: Refer to 66

156 Table 1: **Rank Based quotients for the Constraints faced by farmers in profitable jute**
157 **cultivation**

Comment [U106]: Add RBQ in bracket.

Comment [U107]: Add the source of this data at the bottom of this table.

Sl. No	Constraints	RBQ	Rank
1	Non availability of labour	79.93	5
2	High cost of labour	90.76	2
3	Lack of knowledge about fibre grades	80.20	4
4	Middle men	89.65	3
5	No organized market	92.15	1
6	Insect pest attack	46.87	7
7	Water crisis during sowing	67.70	6
8	Water crisis during retting	43.54	9
9	Lack of space for storing the fibre	21.66	12
10	Lack of availability of quality seeds	41.66	10
11	Problem of weeds	30.48	11
12	Lack of knowledge about variety	46.04	8

Table 2: Rank Based quotients for the constraints faced by industries in profitable jute procurement, processing and marketing.

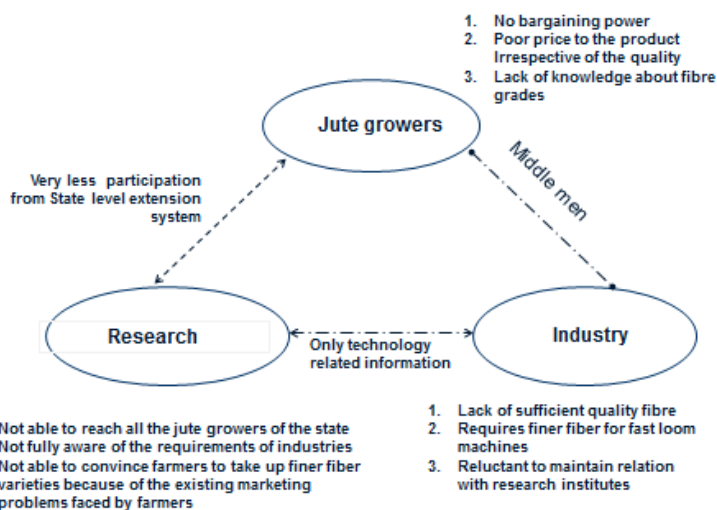
Constraint	RBQ	Rank
Labour availability	0.99	1
Labour cost	0.86	2 ¹⁶¹
Sufficient Fibre availability	0.22	15
Fibre quality not up to the mark (Lack of fine fibre)	0.54	7 ¹⁶²
Less storage facility	0.22	14
Competition from other similar synthetic products	0.68	3 ¹⁶³
Lack of latest machineries	0.55	6
Middle men	0.57	5 ¹⁶⁴
Demand Constraint	0.63	4
Dominance of single product-sacking	0.48	10 ¹⁶⁵
Dominance of domestic consumption	0.39	13
Non exploitation of Export market potential	0.45	11
Absence of institutionalized marketing effort	0.53	8 ¹⁶⁶
Lack of awareness of jute in developed nations	0.49	9
Lack of process and quality controls	0.43	12 ¹⁶⁷

Comment [U108]: Add RBQ in bracket.

Comment [U109]: Add the source of this data at the bottom of this table. You can also reformat this table for missing or multiple figures.

168

Fig-1 : Existing linkage between research, farmers and Industry in jute sector



Comment [U110]: Replace with "among"

Comment [U111]: Add the source of this data at the bottom of this diagram.

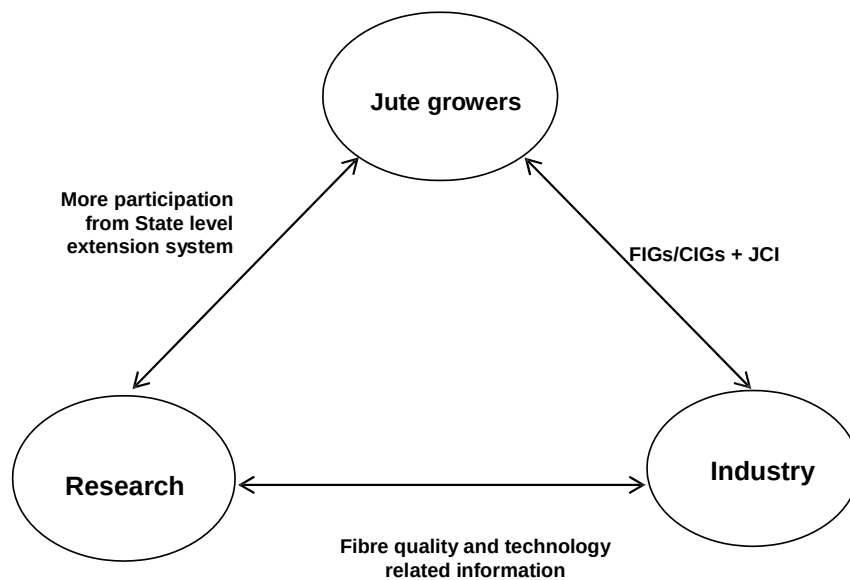
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Fig-2 : Suggested model for linkage between research, farmers and Industry in jute sector



Comment [U112]: Replace with “among”

Comment [U113]: Add the source of this data at the bottom of this diagram.