

## Jute Value Chain in Bangladesh: Information and Knowledge Gaps of Smallholders

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## Abstract

Jute has long been called the 'golden fibre' of Bangladesh. Bangladesh is currently the second largest producer<sup>1</sup> of jute fiber in the world with only India producing more. Jute is also the country's third biggest foreign exchange earner after garments and remittances. However, following the emergence of other vibrant sectors in the economy, the sector experienced many ups and downs. Nevertheless, given the rising global environmental concerns and the perishable nature of jute and jute products, jute has re-emerged offering huge prospects. This study has been conducted against the background of the increasing importance of jute. Using a value chain analysis, the study analyzes the systemic issues faced within the whole process—from farming to exporting—with particular focus on knowledge and information gaps. The study identifies bottlenecks the sector is facing, relationships and linkages between and among the actors, the flow of products and the changes in value and information, and the knowledge flow. It is evident from the study that despite its many difficulties and challenges, the jute sector holds great potential for smallholders and the overall economy of Bangladesh in view of an expanding market, both locally and globally.

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<sup>1</sup> FAOSTAT 2009

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## Abbreviations

AIS	Agriculture Information Services
BADC	Bangladesh Agricultural Development Corporation
BDT	Bangladeshi Taka
BJMC	Bangladesh Jute Mills Corporation
BJRI	Bangladesh Jute Research Institute
DAE	Department of Agricultural Extension
DoJ	Department of Jute
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IJSG	International Jute Study Group
IRRI	International Rice Research Institute
IVR	Interactive Voice Response
JDP	Jute Diversified Product
JDPC	Jute Diversification Promotion Center
JDPP	Jute Diversified Product Producers
KBE	Knowledge Based Economy
LCC	Leaf Color Chart
MMS	Multimedia Messaging Service
MSEs	Micro and Small Enterprises
MT	Metric Tonne
NGO	Non Governmental Organization
R&D	Research and Development
SMEs	Small and Medium Enterprises
SMS	Short Message Service
TVC	Television Commercial
USD	United States Dollar

## **Prelude**

The research was envisaged *to identify the bottlenecks to increased production of good quality jute in Bangladesh that holds huge potential for catering to an expanding market.*

The specific objectives of this Knowledge Based Economy (KBE) research were to:

- Achieve an in-depth understanding of how innovations related to information and communication technologies (ICTs) are used (and may be used) to improve the efficiency and inclusiveness of the jute value chain in Bangladesh; the specific focus was on increasing the participation (inclusiveness) of small players; especially micro and small enterprises (MSEs) and small and medium enterprises (SMEs) within the value chain through various forms of value addition, and the reduction of various forms of transaction costs.
- Develop recommendations for improving the efficiency and inclusiveness of agricultural value chains including through the application of ICTs, but not limited to them; specifically, identify and differentiate between the roles that shall be played by the private sector vs. the public sector in providing such services to MSEs and SMEs.
- Based on the in-depth understandings mentioned above, contribute to improving indicators related to measuring progress toward inclusive knowledge-based economies.

In order to carry out KBE research in the Bangladesh agriculture sector, two value chains were selected through desk research. The following criteria were used to select the two most promising export -oriented agricultural value chains:

Goods that have

- potential for value addition,
- high participation (or potential for participation) by small actors including MSE/ SMEs,
- high export potential, and
- potential for increased productivity.

After rigorous desk research followed by a short-listing and ranking exercise<sup>2</sup>, jute proved to be one of the two most promising value chains and was analyzed further afterwards. This report describes the in-depth analysis of the jute value chain.

## **Methodology**

A value chain analysis was done to unfold the industry dynamics, its market actors and different service provisions, constraints and opportunities. The overall research was carried out through desk research, in-depth interviews and Focus Group Discussion (FGD).

The desk research involved reviewing existing literature on the sector. The initial desk research helped develop a general understanding of the overall sector. It resulted in identifying different market actors and nodal points within the value chain, which, in turn, helped select in-depth interview respondents -industry

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<sup>2</sup> See Appendix 1 for selection summary

experts, concerned government and research agencies, value chain actors and industry associations. A snow-balling approach was adopted to develop the entire value chain. The process started with identifying and interviewing end market actors such as exporters and then gradually moving up the value chain up to the input supplier level. In total, 55 interviews were conducted with different value chain actors, key informants and service providers. The list of respondents is given in Appendix 2. Three different geographical locations (the types of different geographical areas are described in a later section) were selected as jute producing clusters representing the diversified nature of varieties, yield and quality. The areas were Faridpur (falling under “hard district” producing finest quality jute and also the major jute producing district), Comilla (falling under “jat area” and producing average quality jute) and Khulna (falling under “soft district” and producing average quality jute). Three FGDs were carried out with jute farmers in these three areas that produce jute of different qualities and on different scales in order to capture the overall production scenario. Primary data was collected during the first quarter of 2011. The desk research was continued along with interviews and FGDs throughout the study period to validate the field findings with available facts and figures. The overall research consisted of the following steps:

1. Mapping the core processes in the value chain ,
2. Identifying the actors,
3. Identifying the services that feed into the value chain ,
4. Mapping the relationships and linkages ,
5. Mapping the flow of products including the geographical flow ,
6. Mapping the changes in the value and form of the products ,
7. Mapping the information and knowledge flows,
8. Mapping the number of actors and employment, and
9. Identifying the transaction costs and ways to reduce them.

The report begins with a brief description of the Bangladesh jute sector. It is followed by mapping the value chain that includes the information and knowledge flows at different tiers. It also summarizes the constraints and opportunities and possible solutions for addressing them. Identifying the knowledge gaps, which is the key focus of the research, is reflected throughout the research.

## Introduction

### Overview

Jute, popularly known as the 'golden fibre' of Bangladesh is a significant source of export earnings. Currently, it is only behind garments and remittances. Globally, Bangladesh is the second largest producer of jute fibre, with only India producing more. Other jute producing countries are China, Brazil, Cambodia, Cameroon, Egypt, Iran, Myanmar, Nepal, Pakistan, Peru, Thailand, Uzbekistan and Vietnam. (Table 1)

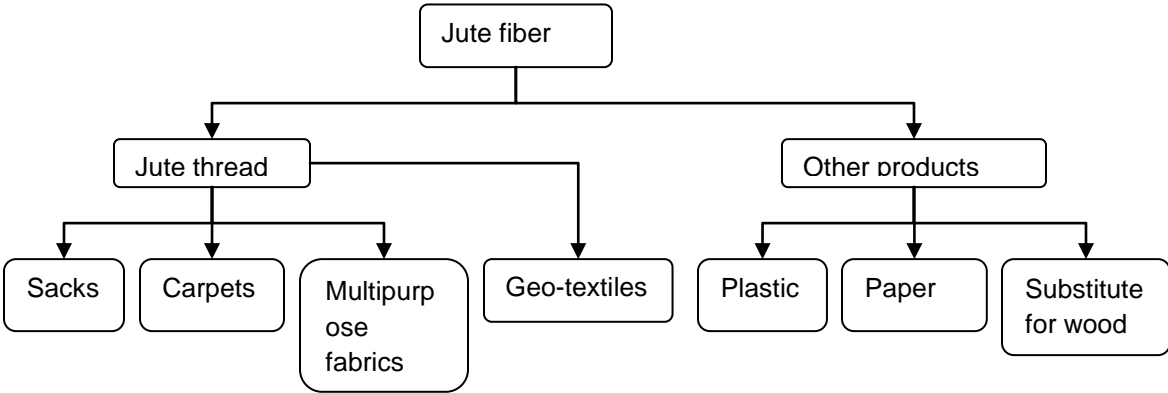
**Table 1. Top Jute production in the world 2008<sup>3</sup>**

Rank	Country	Production (MT)
1	India	1,734,000
2	Bangladesh	848,715

<sup>3</sup> <http://www.fao.org/corp/statistics/en/>

3	China	48,000
4	Uzbekistan	20,000
5	Nepal	16,988
6	Vietnam	7,800
7	Zimbabwe	3,660
8	Myanmar	3,300
9	Sudan	3,200
10	Thailand	2,262

The product mix of jute includes raw jute, jute yarn, hessian<sup>4</sup>, sackings, carpet backing cloth, food grade products, geo-textiles, jute bags, jute blended clothing, jute blended carpets, handicrafts, decorative items, etc.



**Figure 1. Product wise usage of Jute fibre.**

Bangladesh produces around 30% of the total world production of jute and exports around 40% of its total produce as raw jute. The global demand for jute and allied products has seen a steady increase driven by a fresh comeback for biodegradable fibre as people now look for eco-friendly products replacing synthetics. The strong foreign demand is mainly driven by Europe and the Middle East. Figures 2 and 3 show the import trend by different countries and regions in the last decade.

<sup>4</sup> Hessian, a dense woven fabric, is usually made from skin of the jute plant. It has been historically produced as coarse fabric, but more recently it is being used in a refined state known simply as jute as an eco-friendly material for bags, rugs, and other products.

<sup>5</sup> Source: FAO

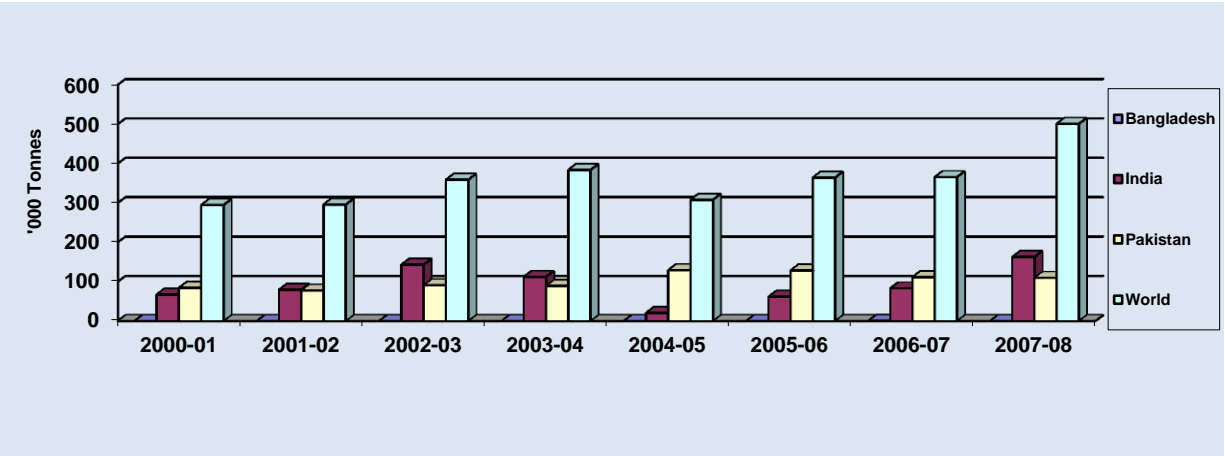


Figure 2. World-wide import of raw jute, kenaf and allied fibers

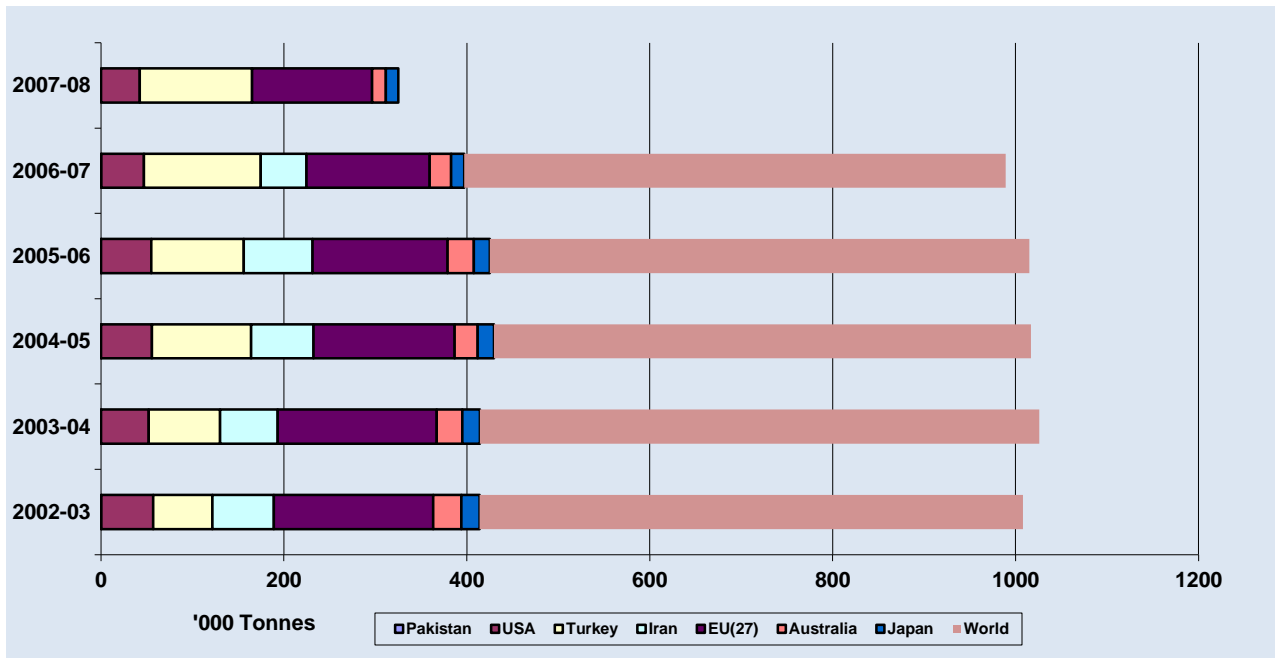


Figure 3: World-wide import of products of jute, kenaf and allied fibers

Figure 2 shows that total imports of raw jute has been increasing and hence, Bangladesh holds the potential to add value to the raw jute it produces and exports. In addition, Bangladesh imports almost no raw jute or any other allied fibers whereas India imports a significant portion of the world's total imports. On the other hand, Figure 3 indicates that European countries, Turkey and Iran are the major importers of jute goods. These could be potential markets for Bangladesh to penetrate further. In the case of the European Union, there is a declining trend in imports whereas in Turkey there is an increasing trend. Buyers mainly include distributors (for raw and processed jute) and supermarkets (for processed jute).



As of 2006-07, the jute sector contributed 1.3% share to the Bangladesh GDP<sup>6</sup>. According to the “Agriculture Sample Survey of Bangladesh 2005”<sup>7</sup>, approximately 1.1 million households were involved in jute cultivation while around 0.3 million additional persons were involved in the manufacture of jute products

One of the prime reasons why Bangladeshi farmers cultivate jute is its low production cost compared to that of other competing crops<sup>8</sup> such as rice -both traditional and high yielding varieties of Aus, Aman and Boro- and maize, groundnut, etc. The other reasons include easy cultivation processes, easy storage and year round sales guarantee, additional income from bi-products, cost reduction in the case of crops cultivated after jute and replenishment of soil nutrition. Poor farmers who grow jute in general are said to be more risk-averse than larger farmers.<sup>9</sup> Jute production is less vulnerable to weather effects and floods compared to other crops such as vegetables and hence poor farmers prefer to minimize their risks.

The following figures give a summary of production, area coverage, yield growth and export trend of jute and jute products in Bangladesh. Multiple sources had to be used to calculate the figures because of the unavailability of data from a single source.

Figure 4 shows that both production and area coverage have been increasing in the last few years and the increased production has been attributed not only to increased area coverage but also to increased yields (shown in Figure 5).

Figure 6 compares export earnings among the three major categories of raw jute, jute yarn and twines, and jute sacks and bags. There are other different types of jute goods as well that are exported. Jute yarn and twines constitute the major export earning share followed by raw jute and then jute sacks and bags. Interestingly, whereas 40% of the total jute produced is exported as raw jute, jute goods earn much more foreign currency than the former, as the Figure shows. It is worth mentioning that jute yarn and twines are the primary level processed jute goods while jute sacks and bags are further value added ones. However, it is evident that there is a positive growth in all three categories.

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<sup>6</sup>Source: <http://www.bbs.gov.bd/>

<sup>7</sup> Source: Bangladesh Bureau of Statistics

<sup>8</sup> “Competing crops” mean grow in the same season or same period of the year

<sup>9</sup> Source: [www.katalystbd.com](http://www.katalystbd.com)

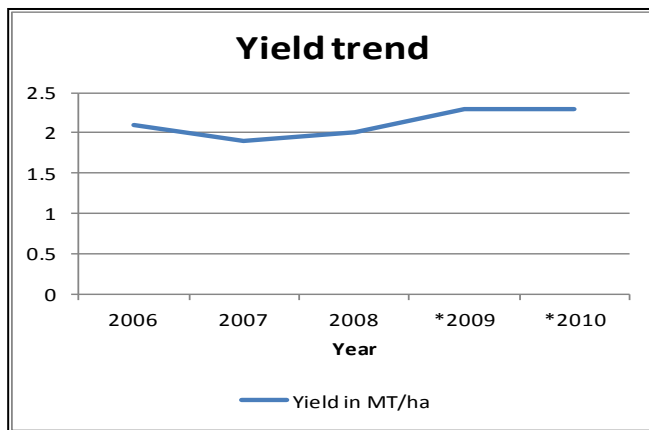
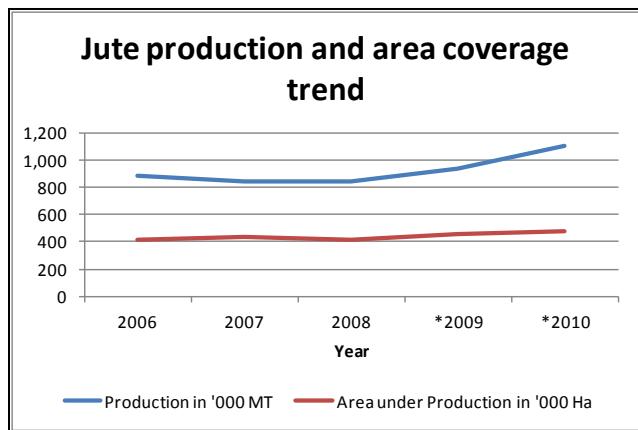


Figure 4. Jute production and area coverage trend in Bangladesh Figure 5. Yield growth trend of jute production in Bangladesh

Sources: FAO

Bangladesh

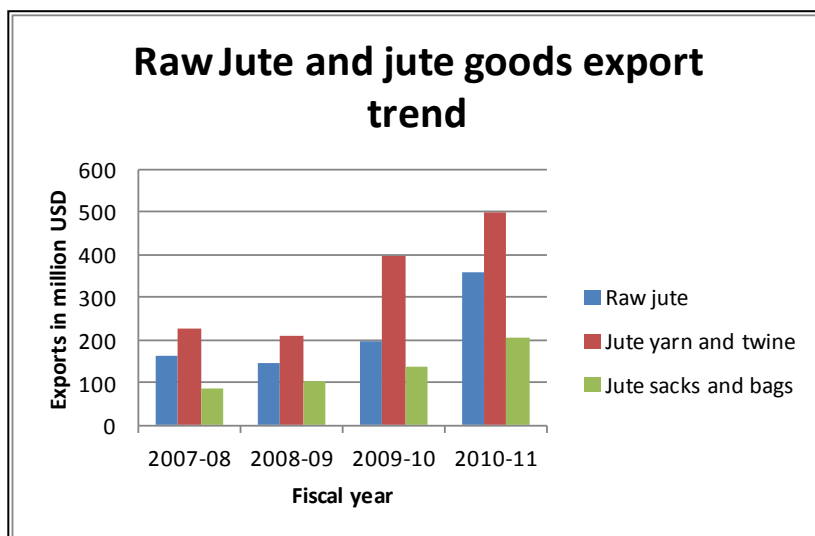
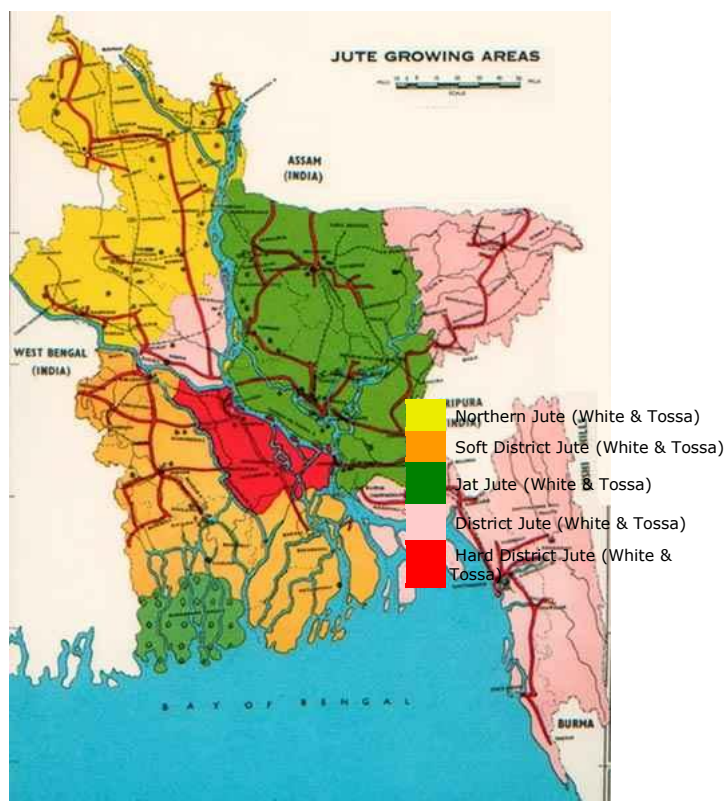


Figure 6. Raw jute and jute goods export trends in Bangladesh

Source: Export Promotion Bureau, Bangladesh

### Jute Production

Jute grows almost all over Bangladesh but according to the soil type and retting conditions its quality of jute varies. Jute, mesta and kenaf are commonly called jute and allied fibers in the jute family and consist of two varieties; white and tossa. In general, the jute growing areas of Bangladesh can be divided into five



<sup>10</sup> www.faostat.fao.org, accessed on April 18, 2011

regions. All clusters, however, produce both varieties, of varying degree of quality/grade. The five regions are:<sup>11</sup>

1. *Jat area*: Comprises mainly Munshiganj, Narayanganj, Manikganj, Gazipur, Tangail, Kishoreganj, Mymensing and Jamalpur shown in green in the map.
2. *Hard districts*: Include mainly Faridpur, Shariatpur, Madaripur and Gopalganj shown in red in the map.
3. *Soft districts*: Kushtia, Chuadanga, Jessore, Narail, Meherpur, Magura are the prominent growing areas in this category shown in orange in the map.
4. *District area*: Chandpur, Chittagong, Chapainawabganj, Rajshahi, Pabna, Bogra, and Sylhet are mainly included in this category shown in pink in the map.
5. *Northern area*: Consists mainly of Rangpur, Kurigram, Nilphamari, Gaibandha, Thakurgaon and Dinajpur shown in yellow in the map.

Among these areas the best quality jute can be produced in the Jat area followed by the Hard districts, Soft districts and the Northern area. There is little cultivation in the District area compared to the other regions.

## Jute Grades

Jute fiber is graded by tensile strength, length, uniformity, color and luster. Good grades of jute should be light yellowish to reddish and lustrous. Lower value grades are brownish to greenish in color.

The grading system or symbolic representation of different graded jute fibers follows an alphabetic scale starting with B for Bangladesh, then type, either W or T for White or Tossa varieties respectively and then letters (A, B, C, D, E, R, CA, CB, etc) to represent different features (strength, color, luster etc) as mentioned earlier where A, B, C, etc represent the degree of quality in descending order. Double letters such as CA, CB, etc are sub-divisions of C. . Table 2 shows some of the grades of jute fiber along with their corresponding price (in USD/MT).

**Table 2. Price of different graded jute fiber (July 08-Dec 08)**

Grade	Average price (USD/MT)	Grade	Average price (USD/MT)	Grade	Average price (\$/MT)	Grade	Average price (USD/MT)	Grade	Average price (\$/MT)
BWC	439	BWC A	238	BTD	445	BTCB	284	Mesht a C	317
BWD	486	BWC B	249	BTE	400	Mesht a SPL	492	Mesht a R	366
BWE	379	BTB	508	BTR	370	Mesht a A	467	Kenaf	233
BWR	372	BTC	441	BTC A	289	Mesht a B	295		

<sup>11</sup> Cash Crop Wings, Department of Agriculture (DAE), Ministry of Agriculture, Government of Bangladesh

Source: Bangladesh Jute Association

## Jute Cultivation and Fiber Extraction

The jute cultivation period is the rainy season. In Bangladesh, sowing usually starts at the end of February and continues up to the end of May, depending on the species. Cultivation largely depends on pre-monsoon showers and moisture conditions. It needs long day light for growth. After sowing, four to five months are needed for harvesting the crop. Jute cultivation is labor intensive and is mostly grown by marginal, poor, and small landowners.

For successful cultivation, land preparation is very important along with weeding. It needs 3-5 times cross-plough and laddering for uniform smooth soil, which must have more than 20% organic content. Generally, 10-12 kg/Ha seed is sown by what is referred to as the broadcasting method. In line sowing, less seed is required.



**Picture 1. Mature jute plants: nearly**

**ready to harvest**



**Picture 2. Traditional jute retting after harvest after retting**



**Picture 3: Fiber extraction**

Traditionally, farmers keep a small part of the crop area for growing seeds until their seeds mature in October/November. After harvesting, plants are bundled together in the required numbers, and kept standing for 5-7 days in the field for shading off the leaves. Then they are put under water, which is the traditional method of retting. Clear slow flowing water is the best for good retting. After 12-15 days, when proper retting is completed, the fiber is separated from the sticks by hand and then washed and dried in the sun. After drying, the fiber is ready for sale. .

## **State Support**

The jute sector receives considerable state patronage through a 10% cash incentive on exports of jute products. Exporters receive this incentive on their export value. However, farmers do not get any direct benefit from it. But as exports result in increased demand, farmers usually earn more if exports increase. Ironically, most farmers seem not to have any knowledge about this cash incentive though they know that jute is exported to other countries and when the export demand increases, they can receive better prices. Nevertheless, government occasionally provides incentives to farmers in other ways. For example, according to a press briefing by the Director of Agriculture Information Service, in the fiscal year 2010-11, the government had provided around 1.5 million farmers with ribbon retting devices worth BDT 300 million. Besides, the jute sector is served by the following government agencies:

### **Department of Jute under the Ministry of Textiles and Jute**

The Department of Jute, a relatively new establishment, was re-organized in 1992 through the merger of the former Directorate of Jute and the Directorate of Inspection for Jute and Jute Goods. The major functions of this institution include

- Collecting and disseminating information relating to sowing, export, production, internal use and storage of jute and jute goods;
- Inspecting and evaluating the quality of jute goods produced by the jute mills; and
- Taking legal action against jute traders who do not export raw jute or jute goods as per the trade deal with the expatriate importers and/or violate trade deals executed with them.

### **Bangladesh Jute Mills Corporation (BJMC)**

BJMC was established as an autonomous body of the Government of Bangladesh in 1972 in order to take control of all the jute mills of Bangladesh immediately after its independence. The objective was to resume production through a centrally coordinated management as well as for the development of a rational utilization and consumption of the plentiful jute crop produced in the country to produce finished goods for export and thereby contribute to the socio-economic development of the new nation. At the time of nationalization, there were 77 jute mills in the country. However, their performances deteriorated steadily under state ownership, which led to the privatization of the industry, under which 35 jute mills were transferred to their original owners in 1982-83, leaving the rest to continue under BJMC. Currently, 28 enterprises function under BJMC.

### **Jute Diversification Promotion Center (JDPC)**

JDPC encompassing three areas -technology transfer and project feasibility, market research and promotion, and project monitoring and implementation- is tasked with searching for dynamic and energetic entrepreneurs, appropriate technologies, and arranging financing to tie in the three important key elements of enterprise promotion and business development. An 18-member Steering Committee headed by the Secretary, Ministry of Textiles and Jute works as the governing body of the Center.

JPDC always looks for new technology to diversify jute products both nationally and internationally through constant contact with R&D organizations such as the Bangladesh Jute Research Institute, the Bangladesh Council for Science and Industrial Research, the Indian Jute Industries Research Association and the International Jute Study Group.

### **Bangladesh Jute Research Institute (BJRI)**

BJRI was established in 1951 in order to undertake research to improve jute crops and products. Currently, the Institute is active in the following areas:

- Agricultural research on jute and allied fibers,
- Technological research on jute and allied fibers, and
- Economics and marketing research for the Jute and Textile Products Development Center.

BJRI has a series of activities planned for future. Some of them are:

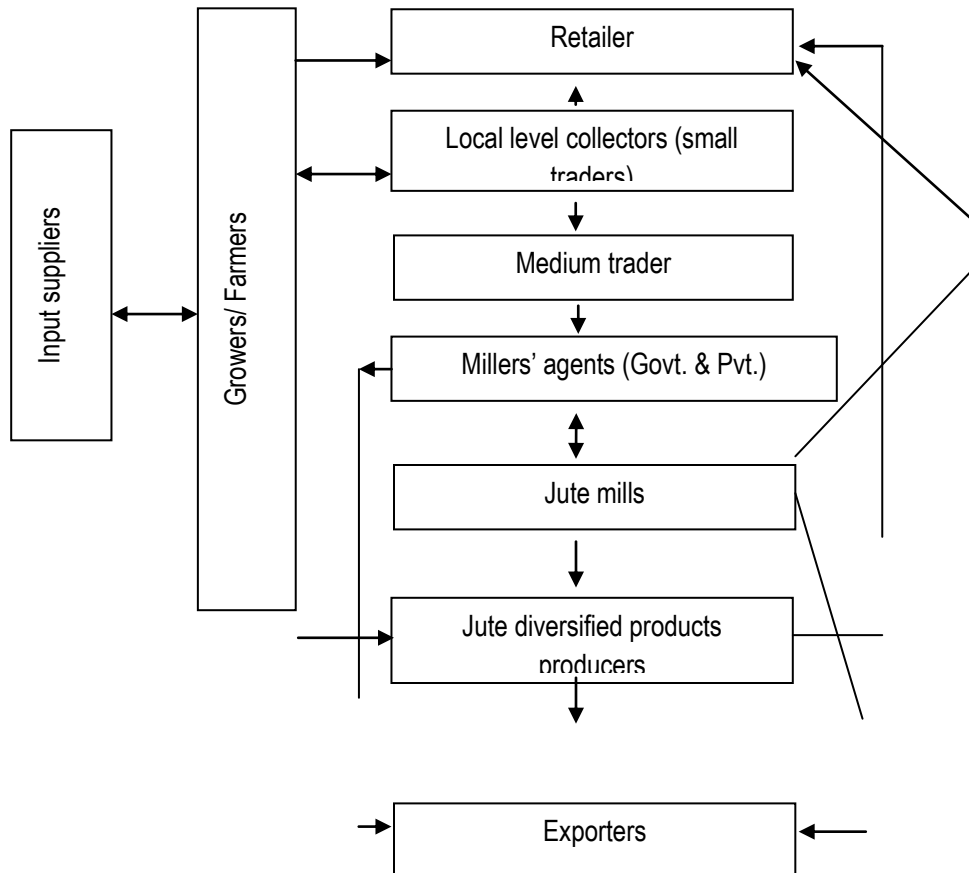
- Development of high yielding varieties of jute seed,
- Improvement of crop, soil, water, fertilizer and pest management techniques and to make jute more environment-friendly and cost-effective,
- Fine-tuning of jute cropping patterns for different agro-ecological zones and new retting technologies, and
- Strengthening the linkage among agricultural research, extension and farmers as well as between jute industrial research, pilot scale entrepreneurs and the industry (DAE), in order to accelerate the dissemination of new technology.

Apart from these institutions, there is the Department of Agricultural Extension (DAE) under the Ministry of Agriculture. It has a direct presence down to the smallest unit of local government and hence is closest to the farmers. Major activities include the promotion of new crops, training, demonstration, counseling, etc.

## Mapping the Value Chain

### Product Flow and Value Chain Actors

Figure 8 shows the core process involving different actors in the jute value chain. The subsequent sections describe their role in the process.



**Figure 8. Core Process and Value Chain Actors**

#### **Input Suppliers**

There are three main types of inputs needed in jute production: seed, crop protection material and fertilizer. Among them, seed is the most important. Jute seed is sold mainly for a very short period of time, i.e., just before the start of the season. There are numerous seed retailers in the market who sell seed directly to the farmers. Irrespective of the locations, seed retailers mostly sell Indian seed (85-90%). The rest -10-15%- is supplied by the Bangladesh Agricultural Development Corporation (BADC). These retailers mostly procure seed from the importers. In a few cases, retailers directly import from India and then sell it to the farmers. Other than these permanent seed retailers, hawkers and mobile seed vendors also sell jute seed. Only a

few seed companies, namely Namdhari, Supreme, etc. import jute seed from India. Discussions with farmers through individual interviews and FGDs revealed that in jute growing, pest attacks are minimal and only 'Gada' pest attacks are visible; thus farmers barely bother about crop protection; i.e., pest control. Therefore, the use of pesticide is somewhat insignificant in jute production. On the other hand, although fertilization is very crucial, jute requires comparatively less amounts of fertilizer than is required for competing crops. Besides, the fertilizer required for jute varies depending on the previous crop cultivated in the same land. For example, if jute is cultivated after onions, it requires less amounts of fertilizer.<sup>12</sup>

### **Farmers**

In the field investigation, it was observed that almost all farmers preferred jute cultivation regardless of their land size. However, this preference differs from region to region. For example, in the greater Faridpur region (Hard District), jute is the first preference of most farmers. This is due to favorable land, fewer alternative crops and the high quality of the fiber. In greater Rangpur (Northern area) where farmers have many other alternative crops to choose from, jute is not necessarily the topmost choice. However, there are many other factors influencing the choice. Among these, jute sticks can be sold in the market for use in household cooking and fencing.

Retting of jute plants for extraction of fiber is a complex biochemical process. The quality of the fiber largely depends on the conditions for retting. Unavailability of enough water for the jute plant to ret lowers the quality of the fiber. If the jute is harvested early and retted in fresh water, its fiber quality becomes the best in terms of color and fineness. But if the harvest gets delayed, farmers have to compete among themselves for the available fresh water bodies and thus if it is retted in used/closed water bodies the resulting jute quality goes down. Sometimes farmers ret jute by mixing it with mud, as mud holds water, which further affects the quality.

Jute is sometimes referred to as an insurance crop for the farmers as they can sell the whole harvest at a time or in small quantities depending on their financial need. But this practice varies from region to region as in greater Faridpur, the farmers stock jute and sell it over a long period of time whereas in greater Rangpur and Comilla (around district area) most farmers sell the whole lot. Almost all farmers bring raw jute of different grades in a lot and sell it to the traders at an average price. Farmers do not have a role in determining the price of raw jute.

### **Traders**

There are three main types of traders engaged in raw jute collection and reselling mechanisms – (1) local level collectors (small traders), (2) medium traders and (3) big traders/ millers' agents. July through October is the peak season for raw jute trading. Small traders who usually operate at the village level procure raw jute directly from the farmers and sell it to medium traders, who usually operate at the sub-district level and millers' agents who usually operate at the district/regional level. On the



Picture 4. Trading shop of a raw jute trader

<sup>12</sup> Source: farmer interview, FGD and agriculture expert interview



other hand, big traders (trade volume above 800 MT per year) operate in the market during the whole year. They buy raw jute from farmers as well as small and medium traders simultaneously. They have storage facilities to stock large volumes of raw jute for several months. They, in turn, supply raw jute to government and private mills and raw jute exporters.

### **Grading and Trading Mechanism**

Small and medium traders who buy directly from farmers in the peak season collect a little extra jute (for example, 2-4 kg extra at the price of 1 mound<sup>13</sup> of raw jute) to compensate for possible loss while selling to big traders or millers' agents. This happens because both small and medium traders and farmers are not aware of the grading system that is followed by raw jute exporters or millers. Big traders, who are aware of the grading policy, enjoy a competitive advantage over the small and medium traders and also farmers regarding the pricing. Small and medium traders who procure directly from the farmers pay in cash. On the other hand, trader-trader or trader-raw jute exporter, trader- mill transactions are done on partial credit or full credit basis. While purchasing from farmers, small and medium traders follow three grades: (1) good (2) medium and (3) bad. But big traders follow the grading standard followed by raw jute exporters and millers, such as (1) BTA- best quality, (2) BTB, (3) BTC, (4) BTD, (5) BTE/SMR- the worst quality.

### **Raw Jute Exporters**

Raw jute exporters procure jute according to buyers' specifications (i.e., sometimes the buyers even specify from which area/region they want the raw materials as it is already mentioned that here the quality based categorizations are made after the regions' name) through large traders and agents. Afterwards they sort and press the raw jute and then export which is subject to inspection by a third party, i.e., quality assurance authorities such as SGS, Intertek and Bureau Veritas prior to export. Most of the exporters are associated with the Bangladesh Jute Association (200-250 members).



All exporters need to obtain a license from the Government and renew it annually to export raw jute.

Picture 5. Ware house of a raw jute exporter

### **Jute Mills**

At present, there are 141 jute mills operating in Bangladesh. Of these, 117 are private jute mills and 24 are government-controlled jute mills where around 187,000 persons are employed. Among them, 83 are composite jute mills (producing yarn and jute goods) of which 59 are private and 24 are government. There are also 58 spinning mills producing yarn only. The mills are prominently located in Dhaka, Narayanganj, Chittagong, Faridpur and Khulna.



<sup>13</sup> 40 kg=1mound, local unit

### **Jute Diversified Products (JDP) Producers**

Picture 6. A jute mill producing yarn

JDP producers are mainly the producers of jute diversified products, i.e., shopping bags, hand bags, wine bags, handicrafts, etc. There are around 250 Jute Diversified Product Producers (JDPPs) in Bangladesh and they are of different sizes in terms of their production volume and organizational capacity. Small and medium sized JDPPs mostly work on a sub-contract basis, selling their products to the contractor who eventually exports it to foreign markets. On the other hand, large JDPPs sell their products directly to the export market according to orders received from the buyers. JDPs constitute around 5% of the total jute export earnings.

### **Buying Agents**

There are two main types of agents:

- a) **Independent agent:** Independent agents usually buy the goods from different mills depending on the orders received from the buyers. After procuring the goods from different mills, they sell them to the buyers retaining a profit for themselves..
- b) **Agent of foreign buyers:** They are the paid employees of the foreign buyers residing in Bangladesh. They procure goods from mills according to the company's needs and then send them to the company.

Among the agents, independent agents are in a majority.. They buy mostly yarn, clothing, sacking, bags, etc., which they procure mainly from BJMC mills and private mills.

**Retailers:** The jute based products' retail outlets are mostly operated by NGO-driven shops as the local market for them is not as large as outside. A few private JDP exporters also have their retail outlets in the local market but mostly in urban areas such as Dhaka, and Chittagong, etc. However, jute ropes and bags, etc are sold in almost every market.

Figure 9 shows the detailed value chain map of the Bangladesh jute industry<sup>14</sup>.

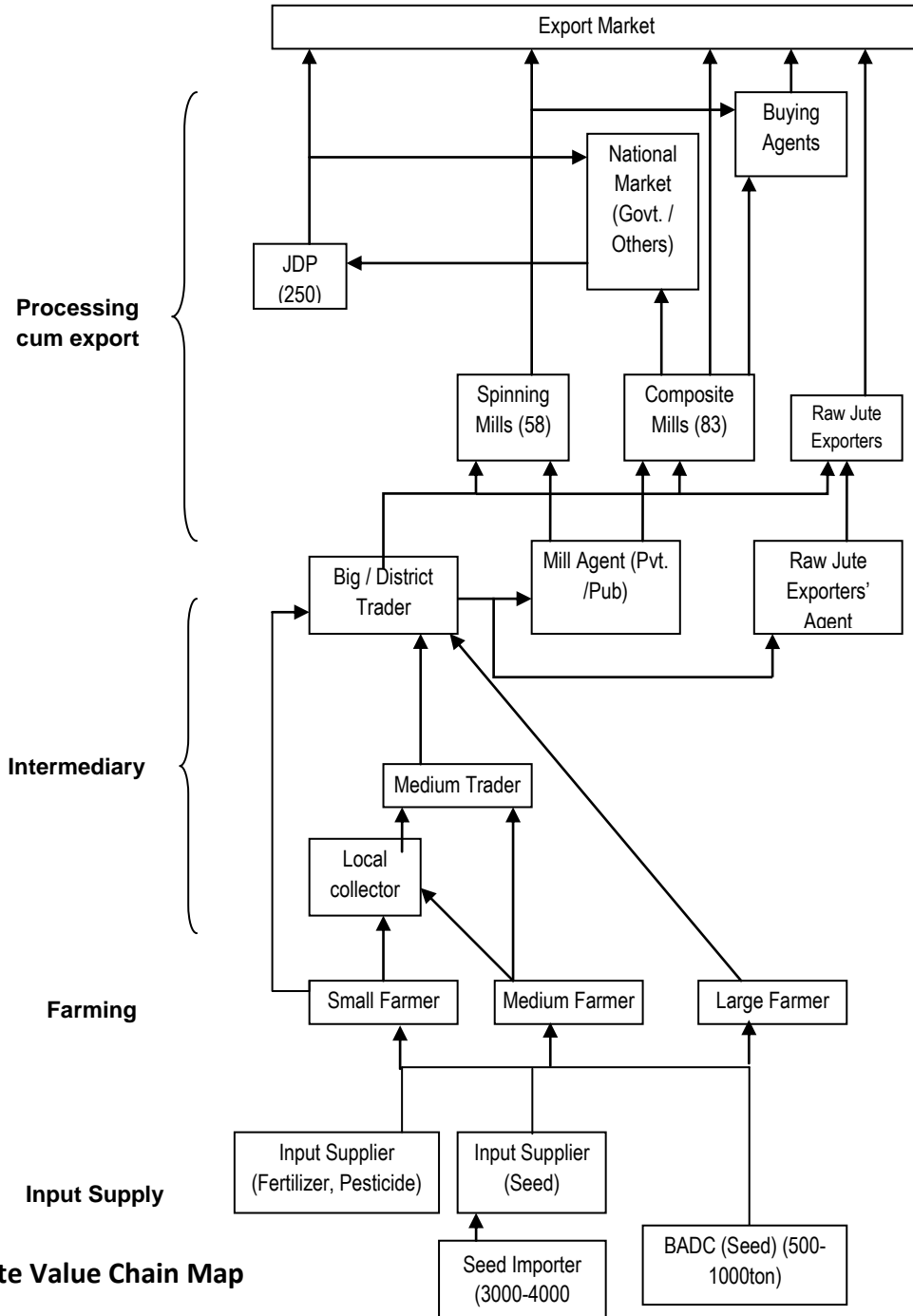


Figure 9: Jute Value Chain Map

<sup>14</sup> Source: Field investigation and interview with KATALYST personnel

## Sector Dynamics

### Extent of Vertical Integration

There are value chain actors who are involved in more than one activity. This is more evident in the cases of jute millers and raw jute exporters (integrated backward through deploying staff for raw jute procurement) and JDPPs (integrated backward through deploying staff for raw jute procurement and also retail sales outlet in the forward chain). However, there are a few cases in which some medium-scale traders are involved in farming and some farmers are involved in local trading.

### Size of the Value Chain Actors

The size of the actors in the jute value chain is very relative. Farmers usually cultivate individually, use family members' labor and also hire labour as and when required. Local level collectors or small traders usually operate alone, occasionally, with an assistant. However, medium and large traders keep 5-10 persons as their helpers when required. The average size of millers' agents would not vary significantly and in general, a miller's agent employs 10-15 persons as assistants. However, the size of business activities is a determinant for jute mills, JDPPs, and exporters. On average, a small-scale jute mill engages approximately 500 workers whereas a larger mill engages around 5,000. JDPPs' personnel engagement varies from 30-50 persons.

### Proportion of Income from Jute

Assessing the proportion of income of individual actors is not easy. However, interviews with the farmers revealed that almost all farmers have their secondary income sources as they can hardly rely on the sole source of jute farming. Local level collectors also have other sources of incomes as jute collection and trading are treated as a seasonal business. Apart from farmers and local level collectors, other actors concentrate on income from the jute business.

### Legal Status of Businesses/Registration

Business registration is required by all actors except farmers and local level collectors. Jute farmers do not require any registration process. Their business being very small and movable, local level collectors too do not register their businesses under any law or authority.

### Geographical Concentration of Different Actors

The following Table shows the geographical concentration of different actors in the jute value chain and rationale for the concentration.

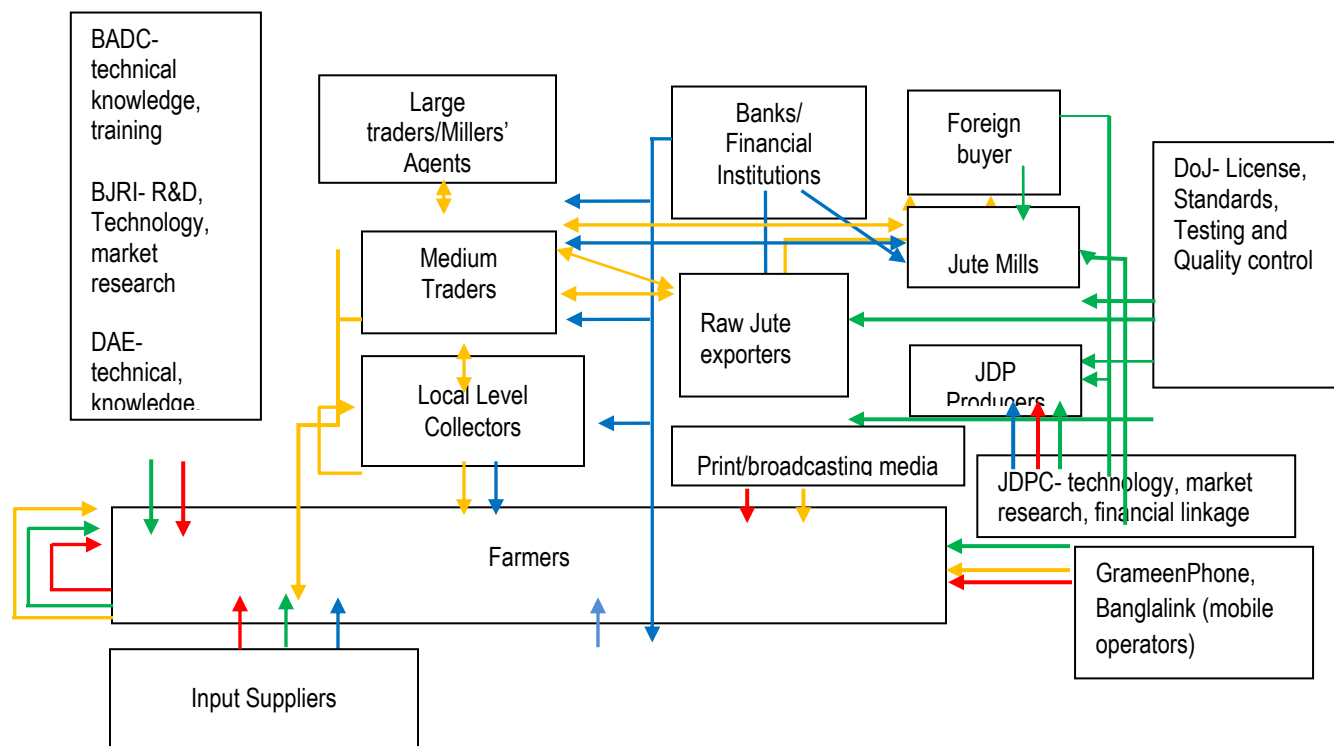
**Table 3. Main geographical locations**

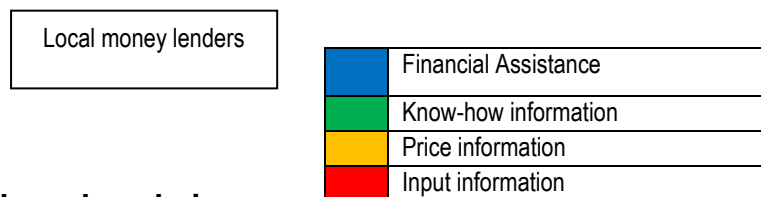
Actors	Main geographical locations	Advantages of those locations
Input suppliers	Production clusters and also all over Bangladesh	Agri-inputs are available throughout Bangladesh as it is an agriculture-based rural economy

Farmers/Growers	Faridpur, Munshiganj, Tangail, Jamalpur, Jessore, Sirajgonj, Bogra	Fertile and favourable land, Supply of water, Favourable climate
Local level collectors	In the production cluster	Easy access to raw jute
Millers' agents (Government and Private)	In the production cluster	Easy access to raw jute
Jute mills (Government and Private)	Narayanganj, Dhaka, and some districts (like Faridpur)	Geographical advantages, access to waterway for transportation
Jute Diversified Product (JDP) producers	Narayanganj, Dhaka	Geographical advantages, presence of backward and forward linkages
Exporters	Dhaka	Capital city, easier for business communication

### Information Flow in the Value Chain

The field investigation shows that the information flow in the value chain is flawed, hampering the growth of the sector. After reviewing the general information of the sector, farmers, among other actors, were asked a wide range of questions regarding the flow of information relating to planting, growing, harvesting, post-harvest processes, marketing and different services. The core inquiry was how and from whom they source their information and how easily available and accessible the information was. The dynamics of the uncovered information flow consisting of financial assistance, inputs, price and technical know-how is mapped in Figure 10 below.





**Figure 10: Information flow in the value chain**

### ***Price Information***

As mentioned earlier, price varies according to the quality and grade of the jute fibre. Farmers receive price information mainly from the local level collectors (small traders) and sometimes from medium traders and Government millers' agents (Government's price). However, in the case of Government price, transportation costs are not adjusted. Besides, they visit nearby weekly rural markets (*hat*) where a good number of buyers and sellers meet and get price information. Farmers also share price information among themselves. Bigger growers tend to explore more sources to get precise price information. Price negotiations by the small growers seem to take place at the local market place. However, big growers are used to negotiating over the mobile phone but the deal is not complete until the buyer physically verifies the different grades of jute. Most large farmers now see the advantage of knowing the jute market price in Narayanganj and Khulna, the main wholesale markets in the country, through phone calls if they have any contact over there, to enhance their bargaining power. Besides, the expansion of telecommunication networks in the country and the growing use of mobile phones have enabled the farmers to cross-check different price information and price levels at different key market places throughout the country, though it is mostly large farmers that have such contacts. However, the extent of the benefit is arguable since most growers produce insignificant quantities and are therefore unable to bargain.

However, the mobile operator Banglalink has introduced an Interactive Voice Response (IVR)-based service called 'Banglalink Krishibazaar'. It allows customers to record his/her own advertisements of trading of agro-goods or browse through by listening to other advertisements recorded by other callers to get the necessary information. The callers can also call up that trader instantly by pressing "8" and finalize the deal. The information of the products will be available by categories, prices, and locations, etc. to make the process easier. The Grameen Phone has been facilitating an online market for the last few years. Anyone can visit the website<sup>15</sup> if he/she has internet connectivity and can check the market price of different products. If someone wants to upload his/her merchandize on the site, he/she needs to have a Grameen Phone subscription number.

### ***Input Information***

Seed is the major input required for jute cultivation. Farmers get the information regarding seed from input retailers and also from extension officers. From the same sources, they also receive information regarding pesticides and fertilizers. BADC contract seed growers receive many types of input-related information from

<sup>15</sup> [www.cellbazaar.com](http://www.cellbazaar.com)

BADC technical personnel. Farmers also share information among themselves on different inputs. Besides, print media and broadcasting media also provide input-related information occasionally.

### ***Know-how Information***

DAE is responsible for educating farmers on overall crop production techniques from input selection to post-harvest activity through training, farmers' field schools, demonstrations, and promotional campaigns, etc. BJRI promotes its new inventions and technologies through DAE at the farm level. Contract farmers under BADC receive technical know-how from there. Farmers often receive information on production techniques from input retailers regarding the use of inputs. Besides, farmers share technical information and production know-how techniques among themselves. Farmers can also get information from mobile phone network operators such as Grameen Phone and Banglalink through phone calls. Grameen Phone, the leading mobile operator, has established more than 500 Community Information Centers (CICs) with Internet connectivity in the semi-urban and rural areas of Bangladesh. By visiting the CICs, farmers can get access to a web portal named [www.ruralinfobd.com](http://www.ruralinfobd.com), which is rich in agriculture related information. On the other hand, Banglalink offers the 'krishi jigyasha 7676' service which provides suggestions and answers to any queries related to agriculture, vegetable and fruit farming, poultry, livestock, and fisheries, etc. To avail of this service, a Banglalink subscriber needs to dial 7676, talk and get expert advice on the problem. There seems little or no feedback from exporters or processors to farmers pertaining to quality grading of jute.

### ***Financial Assistance***

Jute farmers receive inputs on credit from suppliers (seed, pesticides, fertilizer, etc). Micro finance is a common phenomenon in rural Bangladesh. It targets mostly women for non-crop based activities. However, the spill over is commonplace as the men of the families use the money borrowed by their women from micro finance institutions for different purposes including agriculture. Hence, on many occasions, farmers use micro-finance to meet their jute cultivation costs. Since, it is an indirect way of financing, micro finance providers are not shown in the diagram above. Local money lenders are also very commonplace in rural Bangladesh. Very often, farmers take loans from these money lenders at high interest (50%-100%). Traders of different sizes have access to commercial banks and receive working capital loans. However, jute mills struggle to manage their working capital. Many of the jute mills were taken over by the government after the liberation war (1971) and later, these mills were gradually transferred back to their original private owners. While under government ownership, many mills received huge amount of loans from commercial banks and failed to pay them back. As a result, after the transfer of ownership, the private owners kept struggling to settle those loans and thus obtain further loans.

### **Transaction Costs**

In order simplify the discussion, it is important to define transaction costs. In economics and related disciplines, a transaction cost is a cost incurred in making an economic exchange (restated: the cost of participating in a market)<sup>16</sup>. Apparently, it is very difficult to estimate the transaction costs as so many variables are present. The farmer uses various sources to get information and knowledge (Figure 10).

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<sup>16</sup> Source: Wikipedia

Sometimes, he/she uses a number of sources to get information on any particular issue before making any decision. Hence, the transaction cost also varies from farmer to farmer and also according to the type of information. For example, a farmer can receive input-related information from other farmers, input retailers, government extension offices, private companies doing contract farming, exporters, etc. In certain cases, a farmer may use a single source to make purchase decisions and in other cases, he/she may use several sources. If a farmer is buying an input by asking an input retailer, then the transaction cost would only be his/her transport cost to the shop in the market, may be around BDT 10 (it may also vary, if the farmer makes any other purchases when he/she goes to the market). On the other hand, the transaction cost would be higher if a farmer needs to get information from a government extension officer. In many cases, the transport cost to the office would be around BDT 50-100. However, mobile communication has reduced this transport cost significantly. If the farmer has the mobile number and has access to the extension officer, he/she can talk over the phone which would bring down the transaction cost to less than BDT 10. However, it does not reflect the total transaction costs as it shows only the transportation costs or phone call costs as there are other variables such as time and effort costs. In short, transaction costs for farmers mostly include cost of information and the effort and time to find the solution provider, in particular, the associated cost of transport all of which varies from transaction to transaction. However, all these transaction costs have reduced significantly now considering transportation cost as the prime transaction cost due to the use of mobile phones. Once a person knows the source of his/her information, he/she can make phone calls and can talk for a few minutes for less than BDT 10. Mobile phones are also available now in rural areas. However, as mentioned in the previous sections, there are a few specific services by a few mobile operators in Bangladesh where transaction costs for making different decisions or deals are very straightforward. For instance, in 'Banglalink Krishibazaar', a farmer can record his/her product details with a service charge of BDT<sup>17</sup> 1 per minute (excluding VAT). If the farmer is able to record his complete product profile in 2 minutes and afterwards someone buys his products from the seller's place, then the transaction cost of selling his goods would be only BDT 2. In Banglalink 'Krishi Jigyasha', when a farmer speaks to an expert and gets answers to his/her queries, he/she has to pay BDT 2 per minute for a Banglalink subscriber and BDT 5 for other operators' subscribers. However, this discussion only narrowly tried to identify transaction costs and cannot be considered as a basis for estimating such costs. Thorough research is required to measure the associated transaction costs of any economic exchange.

### **Identified Issues in the Value Chain**

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The overall field investigation identified a series of constraints besetting the value chain and hindering its growth. Not all the identified constraints are discussed in the report as the focus of the study is to identify the information and the knowledge gaps in the value chain related to small holder farmers. Therefore, only the constraints pertaining to small holder farmers are analyzed in this section.

### **Inability to distinguish between good and bad quality seed**

*Unavailability and inaccessibility of good quality jute seed forces farmers to use adulterated and/or inferior quality seed due to their lack of knowledge of identifying good seed from inferior ones. This results in poorer yields and thereby economic loss to the farmers.*

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<sup>17</sup> BDT=Bangladeshi Taka, 1 USD≈74 BDT (www.xe.com)



As described earlier, jute seed is the vital input for jute production since other inputs such as pesticides and fertilizer requirements are not as high as they are for other crops. The jute seed market is very competitive as sowing time is only one month (mid March-mid April) and seeds cannot be carried over to the next cycle. Traditionally, BADC seed is preferred by farmers in most areas because of its authenticity, ensured quality of seed and fiber. However, BADC is unable to meet the market demand mainly due to their inefficiency in distribution and because priority is given to paddy seed production than jute seed production.<sup>18</sup>

Even though only BADC appointed dealers are authorized to sell BADC seed, it is often seen that BADC seed is sold by unauthorized dealers after charging a premium from the farmers. On the other hand, as jute seed imports from India is legal, many importers who are not necessarily in agricultural business foray into the seasonal import of jute seed and import low quality seed. Many of these seeds are said to be of low yielding varieties compared to good Indian seeds. According to DAE, it is estimated that at least 30% of the imported seeds available in the market is smuggled seed which is usually of very inferior quality. As the seed sowing period is very short and it takes quite a time to get approval for imported seeds from concerned government departments, many seed importers find smuggling an easier alternative. The remaining 70% are imported legally by individual importers with permission from DAE. Sometimes, even legally imported seed lacks quality in many areas. For example, in many cases, farmers need to sow the seed twice or thrice for proper germination as opined by the farmers in FGDs. The bottom line is that jute farmers end up with inferior quality seed that results in low yields.

The underlying reason for this problem is the ignorance of farmers about identifying better quality seed. Because of the production limitations of the government seed production wing (BADC), all farmers do not get BADC seeds and hence are forced to buy other seeds. Though the government extension offices are supposed to provide information to the farmers on how to recognize good quality seeds and what features need to be considered, very little of this knowledge transfer is observed in practice. Farmers constantly complain that they hardly get any support or advice from the extension officers. On the flip side, extension offices point to their human resource limitations to attend to so many farmers.<sup>19</sup>

Hence, it seems to be an extension failure. In this instance, the use of mobile phones could very likely be able to minimize the limitations of physical distance. With the help of mobile phones, farmers can contact the extension officers instantly and get some suggestions prior to taking any action. Use of SMS or MMS in communication can also add value. However, the extension officer might need to make a visit to provide an optimum solution. Hence, the farmer can also request the officer to visit his/her place at a convenient time. Along with improving the extension services, it makes sense to make farmers aware of identifying better quality seed. Reputed seed companies authorized to sell seeds can arrange promotional campaigns within their marketing plans which would also promote their own brands. This can be done through arranging road shows, poster-billboards, TVC and demonstrations besides mobile phones.

Though mobile operators are providing advisory services through technical experts, farmers are still not accustomed to this process. Farmers consider mobile phone advisory service experts as not people close to their business and hence do not feel comfortable to ask for advisory service as observed during FGDs with farmers. The companies could arrange promotional activities to attract farmers to avail of their advisory

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<sup>18</sup> Source: field interview

<sup>19</sup> Source: field interviews and FGDs

services as and when required. By doing so they must let the farmers feel that such important more-than-voice services do actually benefit the farmers.

### **Poor retting: inferior quality of jute fibre**

Retting of jute fiber in water, an essential process to extract fiber from the jute stick, determines a great deal of the quality of the jute fiber. It was estimated during field investigations that farmers incur a loss of about USD 70-150 per MT of jute fiber due to poor quality jute fiber. Unavailability of sufficient clean water for the jute plant to ret is considered to be the primary reason for lowering the quality of the fiber. This problem plagues jute farmers across the country (other than a few areas) due to decreasing open water-bodies in the retting period (June-July). Also, the spread of commercial fish farming in ponds minimizes the prospect of retting in closed water-bodies. The importance of the retting process in determining the quality of jute fiber is clearly evident in the fact that the best quality fiber is available in Faridpur (Hard district) areas where ground water is available during the retting season. In contrast, quality is the worst in Rangpur region (Northern district) where fresh surface water becomes scarce during June-July. Because of the unavailability of fresh water and also due to lack of knowledge farmers use mud and water plants during the retting which affects the color of the jute fibers. This practice, however, is observed even where there is water available owing to ignorance.

BJRI has promoted the ribbon retting technique through DAE but it has failed to attract farmers since it requires additional labor time. DAE has failed to promote the economic benefits of using ribbon retting even if it requires extra labor since the produced higher quality fiber could certainly fetch a better price ultimately resulting in higher profit for the farmers. DAE could consider ICT, particularly mobile phones in redesigning its strategy to educate the farmers on the ribbon retting procedure. Demonstration plots and farmers' gatherings in "field-schools" arranged by DAE can be considered as the registration place where farmers may register themselves through their respective mobile phone numbers. The Bangladesh government, through different ministries, provides various information through SMSs to the citizens (such as the Ministry of Health that provides information on vaccinations). DAE can also follow this model to provide information to the registered farmers. Here, the message should be in Bangla and also show the economic benefits of using ribbon retting to attract farmers.

### **Grading and price of jute fiber**

As farmers have little knowledge of the grading system, they seem to be constantly dissatisfied with the prices they receive for their produce. Small farmers usually sell their produce to the local level collectors. As mentioned earlier, to address the possible loss due to the grading system in selling up the chain, small traders take an extra 2-4 kg in every 40 kg. In this way, grabbing an extra amount as an excuse to compensate the possible loss due to grading makes the process non-transparent and encourages cheating, thereby depriving farmers in two possible ways. First, they are not sure about the price of their produced grade and second, about the additional amount that they have to give away free of charge.

The system of giving away of an additional amount can be addressed if they can supply to larger traders who clearly declare the grade and thereby the price. In that context, small farmers could possibly combine in groups so that they can supply in bulk and sell directly to large traders. A number of reasons emerged in the field investigation as to why farmers currently are not trading in groups. Harvests at different times,

different volume and quality of individual farmer's produce, individual strategy to sell and store, etc. are the major reasons.

In determining the grade of jute, mobile telecommunication services can play a significant role. Apart from tensile strength, other features can be understood through pictures (visual grading) and hence, MMS can play a vital role in identifying the grade of jute fiber. Multiple operators can probably provide this service. After receiving the information on grade, farmers can bargain on price. The whole process can also be standardized. If market price at different large wholesale markets can be collected along with their grades, farmers can directly know through SMS and MMS about their product grade and price. Of course, it is not a fool-proof method to get to know about grades (visuals may be unclear, or the farmer may not get a good picture, or he/she may not have a camera on the phone, etc), but even partial implementation of this can be a step forward towards improving the situation. Using color charts can be another low-tech solution in this regard. A color chart showing different colors of different jute grades can be used to assess the quality of the jute fiber. However, the color chart method has already been invented by IRRRI called Leaf Color Chart (LCC) and introduced by DAE in Bangladesh for rice. By using the LCC, a farmer can match the color of his paddy leaves with different colors of the chart and can get to know about different fertilizer dosages required for his/her land. Unfortunately, the LCC has not been very popular among the farmers since they did not find it very handy to use. But the method can be tried in the jute sector as an experiment. Hence, along with introducing color charts for jute, the use of mobile phones as described earlier can improve the situation.

### **Access to working capital for jute mills**

As mentioned earlier, a good number of both public and private jute mills suffer from huge past debt burden. It has continued to affect the overall sustainability and growth of the sector. Though new jute mills are coming up, many old ones are struggling, running under low capacity utilization, squeezing or even shutting down their operations due to this dead-weight burden. For the jute mills to operate in a financially viable manner, the debt burden needs to be restructured and, where necessary, written off. Unfortunately, although the information is available to policy makers still no concrete steps have been taken to resolve the issue. More jute mills with increased capacity can pull up the demand for more jute and thereby small holders can reap more income.

### **Conclusion**

As a renewable, biodegradable, easily disposable and environment- friendly natural commodity, there is are huge prospects for jute and jute products locally and internationally. There are adequate arrangements to facilitate the jute trade inside and outside the country. A global consciousness has already developed against the use of artificial fibres and synthetic products, which are now being replaced by the environment-friendly jute goods. A huge potential market for these products is being created in the developed countries. To convert these potential markets into real markets, comprehensive market promotional activity is greatly needed. A series of R&D projects and programmes had been implemented and these have generated new technologies for producing diversified jute products. Recently, a government-sponsored research initiative led by Bangladeshi scientist Dr Maksudul Alam and his team has successfully decoded the crucial genome sequence of jute which is expected to open up a new vista in the development of the golden fiber. It would

help improve the jute fibre quality and invent species which would also be tolerant to the climate change phenomenon.

As a growing industry, the sector needs to tap the growing market demand with better quality jute fibre. To meet this demand, there is plenty of scope for increasing production through both horizontal expansion (bringing more land under production) and vertical expansion (through increasing the yield). For this, farmers need to fetch a better price through knowledge of their fibre grade and also corresponding price and also to avail themselves of good quality seed for higher yields. On the other hand, good quality jute fibre can be ensured, among others, through ensuring a better retting system. In addition, jute mills with access to financial support from commercial banks can pull the demand up for raw jute. The present study analyzed all these aspects from the information and knowledge gaps perspective and identified the loopholes. Taking proper measures to fill these gaps can certainly improve the situation and lead to a more vibrant and competitive jute sector in Bangladesh.

## Appendices

### Appendix 1. Selection of most potential export oriented agricultural value chains

#### Introduction

In recent years, Bangladesh's economy has earned recognition from many spectators as being vibrant and highly promising. During the last couple of decades, the economy has experienced rapid expansion with a spectacular surge in the RMG sector. Bangladesh exported more than \$18 billion worth of goods and services in 2009 where the contribution of the Ready Made Garments (RMG) sector alone was almost 75%. Although its foreign trade still remains very concentrated in only a few sectors, there are clear signs of progress in many areas. Agricultural commodities are climbing up the ladder and trying to diversify the product list of export items. Although RMG exports take the lion's share of export earnings, its value addition remains quite low – approximately 30%– while the value addition of exported agricultural commodities is almost 100%. However, the following four major criteria are used to select the two most potential value chains:

- Goods that
- have potential for value addition,
  - have high participation (or potential for participation) by small actors including MSE/ SMEs,
  - have high export potential, and
  - have potential for increased productivity.

#### Identifying an initial list of value chain commodities

The list is largely drawn from the Food and Agriculture Organization Statistics (FAOSTAT). Several categories including quantity of exports, value of the export earnings of individual commodities, and unit value have been considered by FAOSTAT for the ranking. However, the commodity -shrimps and prawns- is added separately for the sake of grouping the leading agri-commodities and for further assessment. Table 1 lists a total of 20 value chains considered in this exercise.

**Table 1. List of main exported agri-commodities (2008 estimate)\***

Rank	Commodity	Quantity	Flag	Value (1000	Flag	Unit value (\$/tonne)
1	Shrimp**	43435***		447785		8004
2	Jute **	369372	R	162195	R	350
3	Tobacco,	9490	R	30438	R	2518
4	Vegetables fresh nes**	7574	R	15915	R	1866
5	Tea**	8259	R	14403	R	1304
6	Cotton Waste	26746	R	9753	R	365
7	Rice Milled	5445	R	4537	R	833

8	Nuts, nes	6707	R	3918	R	584
9	Arecanuts	6290	F	3377	F	537
10	Potatoes Flour	1971	F	2925	F	1484
11	Pastry	1943	R	2834	R	1459
12	Rice Husked	3352	R	2523	R	753
13	Veg.in Tem.	1104	F	2493	F	2258
14	Vegetable Frozen	1159	R	2272	R	1960
15	Food Prep,Flour,Malt	1121	F	1981	F	1767
16	Flax Fibre Raw	5461	F	1791	F	328
17	Breakfast Cereals	2061	R	1741	R	845
18	Potatoes	6194	R	1553	R	224
19	Cotton	135	F	1275	R	9444
20	Fruit Juice Nes	3078	R	1256	R	408

Source: FAOSTAT, 2008; and ITC 2008.

F : FAO estimate.

R : Estimated data using trading partners database

\* FAOSTAT data differs from that of ITC (which has been used in the latter part of this report in different situational analyses) due to different methods of data collection.

\*\* ITC

\*\*\* BBS Yearbook of Agricultural Statistics of Bangladesh 2009.

As the Table suggests shrimp stood as the top commodity in terms of export earnings 2008 with \$447.7 million followed by jute which earned \$129.4 million in the same period. Tobacco, with \$23.8 million earnings, was positioned third from the top while vegetables, tea, and cotton waste stood in close proximity in the earnings list with \$14 million, \$10.7 million and \$9.7 million, respectively. Besides, there are other commodities such as potatoes with a moderate contribution that have also been listed, some of which, although seemingly insignificant, have a huge export potential in terms of other indicators which we will explore in the latter part of the report.

#### Selecting 4 – 6 value chains for further assessment

Based on Table 1, each value chain has been assessed comparatively against the two most important following criteria – participation of actors in the value chain and export potential of those commodities. Through a short-listing matrix exercise, the initial list is narrowed down to a smaller number of value chains to assess through all the selected criteria.

**Table 2. Leading value chains in terms of participation and export earnings**

Rank	Commodity	Export earnings Value in 2008 (1000 \$)**	Participation of persons (000)*
1	Shrimp	447785	32
2	Jute	162195	154
3	Tobacco	30438	115
4	Vegetables (including Potato)	15915	1260
5	Tea	14403	431
6	Potato	4537	4537***

Sources:

\* BBS Yearbook of Agricultural Statistics of Bangladesh 2009.

\*\*Source: ITC 2008.

\*\*\* included in vegetables and can be considered the same number.

The results of the short-listing exercised are shown in Figure 1.

<b>Participation of actors</b>	High	Rice	Vegetables Potato Tea	Shrimp Jute Tobacco
		Cereals	Mango	
	Medium	Cotton Waste Fruit Juice Nes Sesame seed	Pastry Nuts, nes Areanuts	
		Low	Medium	High

**Figure 1. Results of the short-listing exercise**

**Export potentials**

Using the matrix, six value chains were identified and selected for additional assessment. These include shrimp, jute, tobacco, vegetables, tea and potato. These products fall into the categories either having a large number of participant - actors (including SMEs and MSMEs) or having high export potential as indicated by the recent export data (Table 1). The remaining value chains either have limited export earnings' potential or participation of actors is quite low in those sectors.

### Finalized value chains selection:

For selecting the final value chains, we have discussed a couple of important factors affecting the selection. First of all, we looked into the domestic production of those six commodities and compared their productivity with two leading world producers – India and China (Table 3). Besides, in Table 4, four years' export data of the commodities were given with their compound annual growth rate (Table 4). The analysis ended with a value chain ranking exercises illustrated in Table 5.

**Table 3. Productivity**

Rank	Commodity	Domestic Production	Productivity (hg/ha)		
			Bangladesh	China	India
1	Shrimp (kg)	117.31 Million Lbs	565*	700	660**
2	Jute	848715 MT	20184	26666	22790
3	Tobacco	40265 MT	13741	21381	14054
4	Vegetables	1100000 MT	70512	170618	130082
5	Tea	53400 MT	10171	9527	16986
6	Potato	6648000 MT	165373	147574	193080

Source: FAOSTAT 2008.

\* FAO fisheries statistics.

\*\*Aquaculture Authority News 2002, Ministry of Agriculture, Government of India.

Table 3 shows that in almost all the commodities Bangladesh is lagging behind India and China. However, in the case of potato Bangladesh is more productive than China but less than India which certainly shows potential for improvement. The same is evident in the case of tea. In vegetables we are lagging far behind both the countries. In tobacco Bangladesh is far behind China but close to India. In jute and shrimp Bangladesh is behind but not too much.

**Table 4. Five year exports of top commodities in value (USD thousands) and their Compound Annual Growth Rate (CAGR) over a four- year period**

Rank	HS Code	Commodity	CAGR	2008	2007	2006	2005
1	0306	Shrimp	8%	447785	612632	482589	354883
2	5303	Jute	10%	162195	196794	141390	121911



3	2401	Tobacco, unmanufactured; tobacco refused	23%	30438	20893	14346	16320
4	0709	Vegetables nes, fresh or chilled	-34.6%	15915	50948	37834	56925
5	0902	Tea	-8.9%	14403	13864	9046	19087
6	0701	Potatoes	-4.8%	1553	1136	2042	1803

Source: ITC trade competitiveness map

On the above table, it shows that Bangladesh has positive growth in shrimp, jute and tobacco but negative in the rest three.

Before we come to a conclusion, it is worthwhile to mention that shrimp has become much more of a political and environmental issue these days as its production is creating environmental hazards and also driving away small farmers from their own land by large shrimp growers. On the other hand, from an ethical point of view, tobacco is not an industry to patronize. Hence, we would not consider shrimp and tobacco in the final ranking grid.

Based on the overall analysis, the four value chains, i.e., vegetables, tea, jute and potato were ranked on a scale of 1 to 10 indicating the strongest correspondence between a value chain and an individual criterion. The results of this ranking exercise are as follows:

**Table 5: Value Chain ranking exercise**

Indicators	Vegetable	Tea	Jute	Potato
Value addition	5	6	8	7
Participation	8	6	6	8
Export	4	5	6	4
Productivity	6	5	7	6
	23	22	27	25

Scale 110 (10 is high)

The ranking exercise clearly demonstrates that jute and potato are well ahead of other competitors considering the four criteria.

**Hence the finally selected value chains for in-depth study are jute and potato.**

## Appendix 2. List of respondents

SI No.	Type of actor	Name	Address
1	Input Supplier	Jagat Dat	Kanaipur Bazar, Faridpur Mobile: 01712656569
2		Komol Dat	Kanaipur Bazar, Faridpur
3		Imam Hossain	Basunor Singhadiya, Faridpur
4		Md. Nasir Uddin	Sourav Enterprise Daudkandi Bazar, Daudkandi, Comilla Mobile: 01712197160
5		Md. Ikbal Hossain	M/s Rony Traders Daudkandi Bazar, Daudkandi, Comilla Mobile: 01926756935
6		Md lokman Hossain	Daudkandi Bazar, Daudkandi, Comilla Mobile: 01676416233
7		Md Abul Kalam	Abdu Miah Store Daudkandi Bazar, Daudkandi, Comilla Mobile: 01676416233
8		Md Abdus Sattar	Madhaia, Chandina, Comilla Mobile: 01718546211
9	Farmers	S M Sakhawat Hossain	Basunor Singhadiya, Faridpur Mobile: 01716976519
10		Rubel Miah	Basunor Singhadiya, Faridpur
11		Md Afzal Hossain	Basunor Singhadiya, Faridpur
12		Md Abdul Karim	Basunor Singhadiya, Faridpur
13		Abdur Rahman	Kanaipur Bazar, Faridpur
14		Abul Hosen	Kanaipur Bazar, Faridpur
15		Khokon	Kanaipur Bazar, Faridpur
16		Billal Hosen	Kanaipur Bazar, Faridpur
17		Monir Hossain	Kojjuri, Faridpur

18		Md Ali Akbar	Kojjuri, Faridpur
19		Abu Taleb	Kojjuri, Faridpur
20		Firoz Miah	Basunor Singhadiya, Faridpur Mobile: 01718225651
21		Sadu Bepari	Chengakandi, Daudkandi, Comilla
22		Shah Alam	Golapir Chor, Daudkandi, Comilla
23		Abdul Hakim	Golapir Chor, Daudkandi, Comilla
24		Abdul Mannan	Golapir Chor, Daudkandi, Comilla
25		Kalai Bepari	Golapir Chor, Daudkandi, Comilla
26		Shukkur Ali Bepari	Golapir Chor, Daudkandi, Comilla
27		Aijol	Golapir Chor, Daudkandi, Comilla
28		Abdul Baten	Golapir Chor, Daudkandi, Comilla
29		Asad	Golapir Chor, Daudkandi, Comilla
30		Md kashem Miah	Kashimpur, Madhaia, Chandina, Comilla
31		Md Eusuf	Kashimpur, Madhaia, Chandina, Comilla
32		Md Zilani	Kashimpur, Madhaia, Chandina, Comilla
33	<b>Local level collectors</b>	Md. Abdul Khaleque	Kanaipur Bazar, Faridpur Mobile: 01713538859
34		Sakhawat Hossain	Kanaipur Bazar, Faridpur Mobile: 01716976519
35	<b>Millers' agents</b>	A H Kamrun Nabi	Deputy Manager, Karim Jute Agency, Faridpur Mobile: 01712042567
36		Mr Asad	Puchaser Alhaj Jute Mills Ltd 19, Dilkusha C/A 93 <sup>rd</sup> Floor) Dhaka-1000
37		Hare Krishna Shaha (independent collector)	Manager M/s Shahzahan Sowdagar Gouripur, Daudkandi, Comilla

38	<b>Jute Mills &amp; Exporters</b>	Mahfuz Alam	Executive, Karim Jute Mills Ltd 99, Motijheel C/A Dhaka-1000 Tel: 9555729 Mobile: 01720958971
39		Md Abdul Kader	DGM, Alhaj Jute Mills Ltd 19, Dilkusha C/A 93 <sup>rd</sup> Floor) Dhaka-1000 Tel: 9551743
40		Sukumar Das	Accountant, Alhaj Jute Mills Ltd 19, Dilkusha C/A 93 <sup>rd</sup> Floor) Dhaka-1000 Tel: 9551743 Mobile: 01720247027
41		Md. Shabbir Yousuf	MD, Faridpur Jute Fibers Ltd. House #91, Road #3, Block #F Banani (Chairmanbari), Dhaka- 1213 Mobile: 01711526070
42		Md Zamal Uddin	Executive Director Faridpur Jute Fibers Ltd. House #91, Road #3, Block #F Banani (Chairmanbari), Dhaka- 1213
43	<b>JDP Producer</b>	Monowara Khanom	Bina Handicrafts House# 70 (1 <sup>st</sup> Floor), Harirampur Mirpur 1, Dhaka Mobile: 01715017438, 0193874359
44		Md. Rashedul Karim Munna	MD, Creation Private Ltd., House 10, Road 7, Uttara, Dhaka, Phone: 8950771
45		Shahedul Islam	Director, Bengal Braided Rugs Limited, House 15, Road 12, Block F, Niketon, Gulshan 1, Dhaka 1212, Phone: 8836074
46		Shirin Haque	Executive Director, ASK Handicrafts, Road 12, Uttara, Mobile: 01713028175
47	<b>Raw Jute Exporter</b>	Md Mozahidul Islam	Director, Jewel Jute Limited, Daulatpur, Khulna, Phone: +88- 041-775223
48		Mahmudur Rahman	Proprietor, M/S A R Jute Trading, Khan-A-Sabur Road, Mohasin More, Daulatpur, Khulna. Phone: +88-041-775222
49	<b>Association</b>	Abdul Quayyum	Secretary Bangladesh Jute

			Association (BJA) 77, Motijheel, Dhaka Mobile: 01552453089
50	<b>Others</b>	Kazi Shahed Ferdous	Country Director, Traidcraft, Apt 5A, House 11, Road 13, Dhanmondi, Dhaka 1209, Phone: 8110663
51		Dr. Md. Mujibur Rahman	Chief Scientific Officer, BJRI, Dhaka, Bangladesh, Mobile: 016711540958
52		Md. Abdur Rour	Director, Export Promotion Bureau, Karwan Bazaar, Dhaka, Mobile: 01914 482124
53		Abdul Awal	Director, Rural Services, Katalyst, House 20, Road 6, Baridhara, Dhaka. Mobile: 01714 069255
54		Aman Ashraf Faiz	Head of Communication Channels, Grameen Phone, Boshundhara, Baridhara, Dhaka. Mobile: 01711505800
55		Debashis Roy	Head of CSR, Grameen Phone, Boshundhara, Baridhara, Dhaka. Mobile: 01711500261