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BUS 400: Internship

A Conceptual Model of Upstream Jute and Jute Diversified Products' Supply Chain Management

Submitted to:

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**A Conceptual Model of Upstream Jute and Jute
Diversified Products' Supply Chain Management**

Letter of Transmittal

13th December, 2018

Dr. Mamun Habib

Associate Professor, BRAC Business School

BRAC University, Dhaka

Subject: Submission of Internship Report.

Dear Sir,

With due respect and humble submission, I would like to submit my final internship report on “**A Conceptual Model of Upstream Jute and Jute Diversified Products’ Supply Chain Management**”, as a part of internship requirement.

Your direct supervisions and the working experience on “The Golden Fibre Trade Center” (GFTCL) help me to do a research on the upstream supply chain of jute industry. I have tried my level best to incorporate all of my experiences and learning and try to make the report more informative.

In writing this Internship report, I have tried to follow all of your instructions to present a real picture of upstream jute and jute diversified goods’ supply chain. However, I will be glad to clarify any incompatibilities that may arise.

Thank you.

Sincerely,

MD. Fatauzzaman Rifath

ID: 14204040

Signature

Letter of Endorsements

That is to certify that Md. Fatauzzaman Rifath is a student of BRAC Business School, ID: 14204040, Major in both Operations & Supply Chain Management and Finance, has successfully completed his internship at “The Golden Fibre Trade Center (GFTCL)” and prepared a report on **“A Conceptual Model of Upstream Jute and Jute Diversified Products’ Supply Chain Management”** under my supervision.

He tried his level best to develop a standard internship report by following my instructions. I wish him a prosperous and successful career.

Signature

Dr. Mamun Habib

Associate Professor, BRAC Business School

BRAC University

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Acknowledgement

This report could not be successfully completed unless some people come to me with their helping hand. Firstly I would like to thank my internship advisor Dr. Mamun Habib, Associate Professor of BRAC Business School, for his constant support and guideline in preparing a standard report.

Secondly, I would like to express my special gratitude to Md Faridul Hassan Khan, General Manager of The Golden Fibre Trade Center (GFTCL). Without his help and reference, it was not possible to get the access of various field level data regarding the jute industry supply chain of Bangladesh.

Furthermore, I would like to thank my internship supervisor Ms. Aparajita Dhar, Deputy Marketing Manager of GFTCL, to let me work with her and giving the opportunities of facing more real life scenarios in jute industry supply chain management. Without her help, maybe I would have ended up with meaningless internship experiences. Besides, I would like to acknowledge that during my internship, I have got access to many necessary and important documents of GFTCL. Among them some of them are very confidential and my organization have let me to access them to get a clear view of the industry but under the condition of not publishing them.

Executive Summary

Bangladesh is one of the leading manufacturers and exporters of jute and jute diversified goods and the export market is becoming more attractive day by day because globally people are becoming more environment conscious. As a result they are rejecting plastics, polypropylenes and other synthetic materials and giving more focus on ecofriendly materials like jute. To do these exporting processes Bangladesh jute industry had to go through a number of supply chain activities. But these supply chain activities are neither effective nor efficient because of some problems. This research attempts to identify the upstream supply chain model of Bangladesh jute and jute diversified products' industry. Furthermore, the study also analyze each and every steps of upstream supply chain and tries to identify the problems of those stages. Firstly, the paper has analyzed theoretical models of basic supply chain in manufacturing and service industry. The paper has also discussed some previous studies regarding market functions and supply channels of Bangladesh jute industry. Based on the theoretical models, previous studies, primary and secondary data the research has developed a conceptual model of upstream supply chain which includes four stages. Those stages are suppliers, farmers or the producers, intermediaries and the mills. However, If the raw jute is directly exported from Bangladesh than the intermediaries are the last part of upstream supply chain. To demonstrate a clear picture, the research has also discussed the downstream supply chain part of jute exporting business. While discussing the stages, the research also attempted to identify the characteristics and roles of each and every players of the supply chain. Besides, the study also shows how each and every players are adding values in different stages of supply chain. This analysis helped to identify the strong and most dominating player as well as most deprived player in upstream jute industry supply chain. Lastly the research has mentioned some recommendations for the betterment of jute industry. This research will be very helpful for the manufacturing and trading companies who are engaged with jute industry. Furthermore it will also help the upstream supply chain players of jute industry to identify their problems and make their operations more effective and efficient.

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Organizational Overview

“The Golden Fibre Trade Center” (GFTCL), a concern of “SIMURA Group”, is a government registered company which engaged in trading and exporting various types of jute and jute diversified products. GFTCL is the flagship company of SIMURA group. This company was established in 1988 with the hand of a Mr. Mushtaq Hussain (Managing Director of GFTCL). Since then GFTCL is fully dedicated in developing, promoting and exporting different types of jute and jute diversified products. Now GFTCL is one of the leading trader and exporters in jute industry with a wide range of business links and expertise.

GFTCL’s head office is situated in Banani, Dhaka and its factory is in Sarishabari in the district of Jamalpur which is well known as a hub of good quality jute fiber production area. Just outside the factory gate there is a huge jute market where raw jute of Jat and Northern areas are traded by the farmers and local intermediaries. GFTCL have the largest press house of the north-east side of Bangladesh. They buy the raw jute from the intermediaries and press it into pucca bales in their own factory and then they export it to the foreign countries. Not only that, GFTCL is one of the largest buyers of traditional jute goods from Bangladesh Jute Mills Corporation (BGMC). GFTCL has the expertise in multiple stages of supply chain like in farmer’s level, manufacturing levels as well as in international markets. These things make GFTCL more competitive in their own field. Strictly quality management, maintaining proper schedule of shipments, capacity of supplying the customers in bulk, strong commitment and excellent relation with the stakeholders are the major strength of GFTCL.

Mission

“Fibre, being the core competency, we promote indigenously grown raw material based products and continuously search for areas where our country’s enormous growth opportunity awaits.”

Vision

“We intend to pioneer in every possible prospective area that economy offers where we think Bangladesh have got unparalleled competitive edge.”

Memberships

GFTCL is registered with the following promotion and trader organizations:

- i. Dhaka Chamber of Commerce and Industry (DCCI)
- ii. Bangladesh Jute Mills Corporation (BJMC)
- iii. Bangladesh Jute Mills Association (BJMA)
- iv. Bangladesh Jute Exporters Association (BJEA)
- v. Bangladesh Jute Goods Association (BJGA)
- vi. Shippers Council of Bangladesh (SCB)
- vii. Export Promotion Bureau of Bangladesh (EPB)

Certification

The Golden Fibre Trade Center achieved **ISO 9001: 2015** certificate in 2018 for its Quality management system.

Products

GFTCL deals with various types' fibers and traditional jute goods and diversified jute products. The fibers include Raw Jute, Kenaf and Roselle Hemp (Mesta) Fibres. Among the traditional jute goods they trade with yarns, traditional packaging fabrics, hessian, sacking, netting, ropes and twines. Besides that they have an attractive market for diversified jute products like dyed and laminated fabrics, Shopping bags, travelling bags, ladies bags, bag pack, file folders etc.

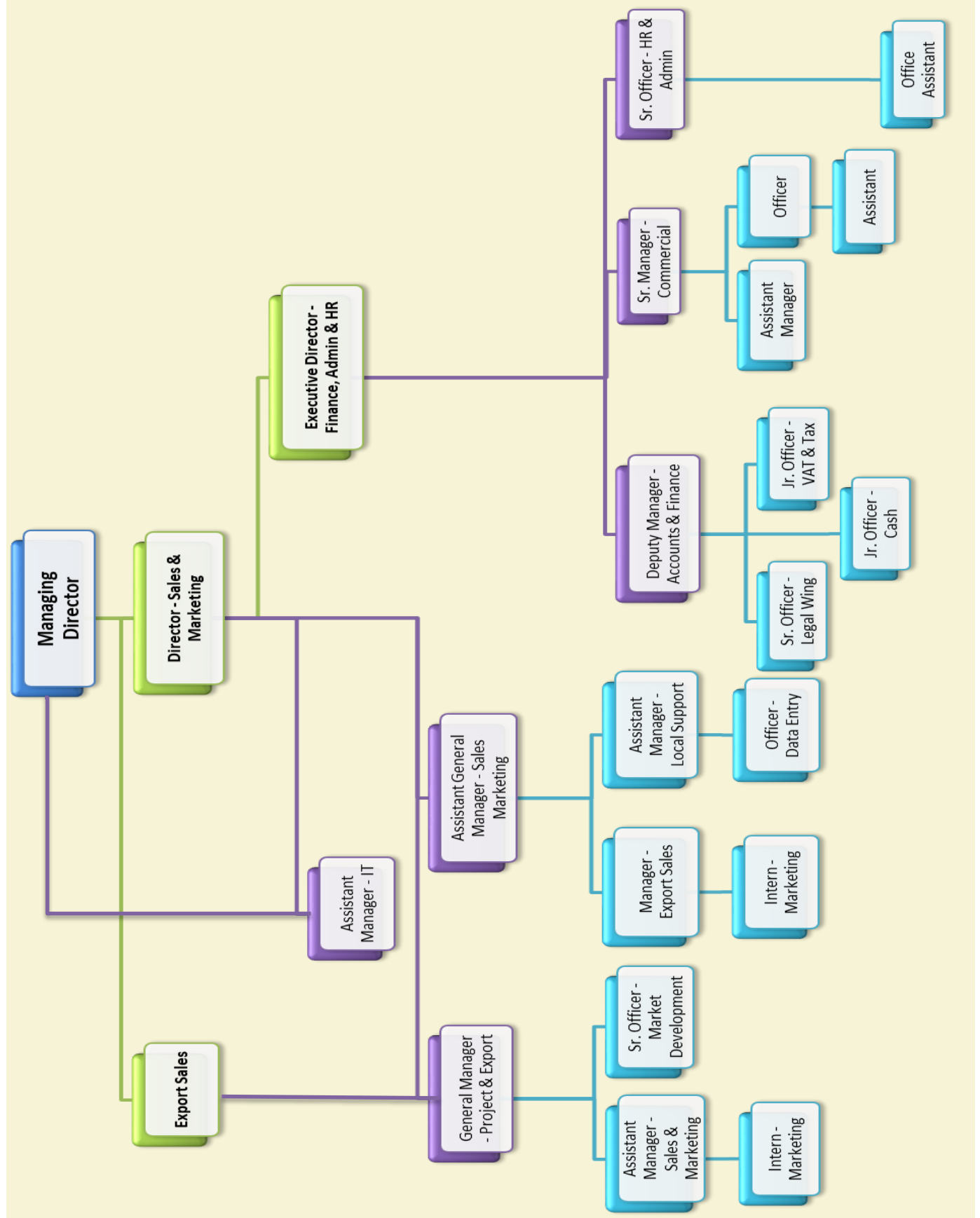
Markets

The main markets of GFTCL are North America, South America, Eastern Europe, Southeast Asia, Africa, Oceania, Middle East, Eastern Asia and Western Europe. The turnover of GFTCL in last five years is on an average US\$35 million.

Achievement

GFTCL was awarded “**Export Trophy**” for their extraordinary contributions to the export sector of Bangladesh in the fiscal year 2014-15.

Organogram of GFTCL



A Conceptual Model of Upstream Jute and Jute Diversified Products' Supply Chain Management

1. Introduction to the study

1.1 Rationale of the study

Bangladesh is the largest exporter of jute and jute diversified goods. It consists around 40 percent of worlds' exports of jute and jute diversified products [1]. Not only that, Bangladesh is the second largest jute fiber manufacturer in the world which consists around 30 percent of total global productions [1]. And these percentages are increasing day by day as globally people are becoming more environment conscious which leads the enterprises investing on jute and jute diversified goods rather than plastics, polypropylenes (PP) or other synthetic materials. Jute industry generally has various categories of products. Bangladesh directly exports raw jute or jute fiber. Besides that, Bangladesh is an attractive market for traditional jute goods as well as diversified jute goods. Traditional jute goods include yarns, traditional packaging fabrics, carpet backing, hessian, sacking, mats, ropes and twines etc. And the diversified jute goods include decorative fabrics, clothing, rugs, shopping bags, travelling bags, ladies bags, luggage, footwear, decorative greeting cards etc. So, for producing, manufacturing and supplying these extensive ranges of products, Bangladesh jute industry has to go through a number of operations in the supply chain. But the supply chain operations of Bangladesh are not very strong. The uses of supply chain in manufacturing industries are very limited [7]. Contrary, the service industries are suffering from inefficiencies in the service delivering processes [7]. And these problems are resulting the steady growth of Bangladesh jute industry.

Supply chain is the process that executes various functions, started from collecting raw materials, then converting the raw materials into finish goods or intermediary goods and distribute those finish goods to the end users [4]. Executions of these function is conducted through upstream and downstream links of supply chain [5]. The basic supply chain in both manufacturing industries and service industries engaged in various arrangements to add value on those two links. The basic supply chain of manufacturing industries includes Suppliers, manufacturers, distributors, retailers, customers (Fig. 1) [6]. On the other hand, service industries basic supply chain includes suppliers, service providers, customers, consumers (Fig. 2) [6].

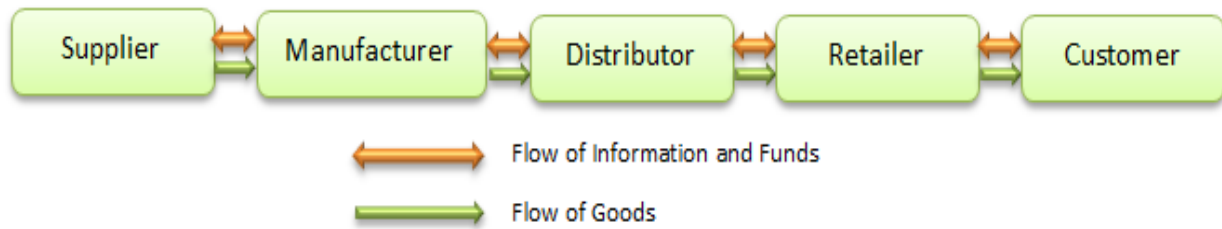


Fig. 1: The Basic Supply Chain of manufacturing industry [6].

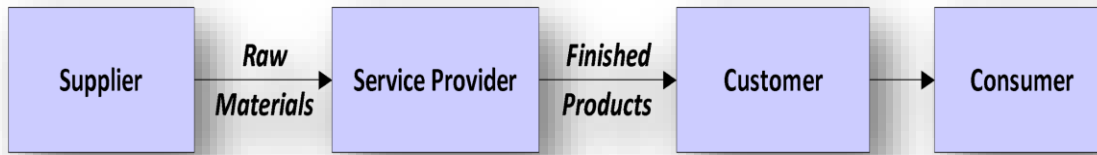


Fig. 2: The Basic Supply Chain of service industry [6].

Like the basic one jute industry also have a supply chain which contains multiple stages starting from raw material supplier to local end user or foreign end customers. But this research is only going to discuss about the upstream supply chain of jute industry. The paper attempts to establish an upstream supply chain model of jute industry and to identify the problems that lie on the upstream supply chain stages. This study will be very helpful for the manufacturing and trading companies of jute and jute diversified products'. They will get a clear view of whole upstream operations of the industry. On the other hand, this study will help the players of upstream supply chain stages to identify their problems and make the operations more efficient and effective.

1.2 Scope and delimitation of the Research

The main limitation of this research is, it's only discuss the upstream supply chain of jute and jute diversified products'. There is a huge scope of better findings on the downstream supply chain of jute and jute diversified products. On the other hand, for this research the primary data is collected by interviewing a group of practitioners of GFTCL, a leading company engaged in jute and jute diversified products trading and exporting. If more companies or the whole industry is considered as a source of information than may be it can lead to better findings.

1.3 Research Objective

- To identify every stages involves in upstream supply chain of jute and jute diversified goods.
- To identify the roles and the relations of every upstream supply chain stages of jute and jute diversified goods.
- To find out the factors on the upstream supply chain that results the steady growth of jute industry.
- To recommend possible ways for the improvements and the efficiencies of jute Industry.

1.4 Research questions

The research seeks to answer the following questions:

- What are the upstream supply chain stages in jute and jute diversified products' supply chain?
- Do the jute farmers get the proper raw materials and facilities?
- How are the market access and the influence of jute farmers on the supply chain?
- What are the roles of intermediaries in the upstream jute supply chain management?
- Which stage dominate the upstream supply chain most?

2. Literature Review

Ref. [2] , based on the primary and secondary data, illustrated five marketing channel of raw jute marketing which is an important part of upstream supply chain of jute and jute diversified products. The main objective of this paper was to scrutinize the price difference of raw jute in different seasons and find out the problems in producing and trading of raw jute. The secondary data are collected from different archives of Department of Agriculture Marketing (DAM) and Bangladesh Jute association (BJA). An experiment also conducted on some selected areas of Bangladesh for this study. Both analytical and descriptive techniques were used for this research. The study showed how raw jute moves from farmers to the initial production facilities or mills or foreign buyers. The author also discussed about the characteristics and functions of different intermediaries in the marketing channels. According to the author the jute farmers mainly sell their products to the farias or baparis in the local markets which is close to the production fields or directly sell from the fields. Farias and other unlicensed small dealers, who mainly deal with unsorted jute, also sell that raw jute to the baparis. From those baparis the jute moves to the kutcha baler or pucca baler or directly to the composite mills. Some times Kutcha baler processed that jute and sell directly to the pucca baler or raw jute exporters. The author also mentioned another intermediary known as Aratdar. Aratdars are the commission agent who deals with both traders of raw jute in one side as well as balers and mills on the other side. The author also highlighted some the direct channel between those intermediaries like farmers to kutcha baler to pucca baler and farmers to faria to pucca balers or exporter. Lastly the study illustrated some recommendations to make the channels more profitable [2].

Ref. [3] highlighted an overall marketing and production scenario of jute and jute products of Bangladesh. In that journal, the author discussed about the distribution channel of jute and jute diversified products' which reflects the upstream supply chain of jute and jute diversified products'. The main objective of this paper was to examine the marketing processes of jute and jute diversified products. Besides that the author had some other objective of doing this research, such as finding out the local as well as the foreign sales for BJMC and BJMA, finding out the efficiency and production capacity. The author also attempted to illustrate a clear picture of jute and jute diversified products' exports and their impacts. The research is fully based on the secondary data. Those data were collected from annual reports of BJMC and BJMA, statistical year book, study of jute and cotton textile, Bangladesh economic review and from various journals

and books. The author used analytical technique for this research. The author mentioned the jute sector as the third highest foreign currency earner and Bangladesh occupies 62% shares globally of total jute market. The paper showed how raw jute moves from producers to the end customers or foreign buyers. According to the author the raw jute initially moves to the farias from the growers or the farmers. Then the farias sell those to the local traders known as baparis or to the government purchase centers. The baparies sell the jute to the mohajan, another intermediary in the jute distribution process. And lastly mohajans sell those to private or public mills or raw jute shippers. The author also added some alternative channels like the baparies can directly sell the raw jute to the mills and the exporters or the government purchase center can directly buy from the farmers and sell to the government jute mills. The author also discussed about the marketing processes of jute and how jute is contributing to the environment. Lastly the author mentioned some challenges of jute marketing and mentioned some necessary suggestions [3].

3. Methodology of the Study

This research is mainly exploratory in nature. The models and the finding of this research is based on several primary and secondary data. The middle man, executives, employees, professionals, government officials who are directly engaged with jute industry of Bangladesh are the target population on this research. This research had done an experience survey by interviewing several practitioners.

3.1 Data collection methods:

3.1.1 Personal interview

Three middle men engaged in raw jute trading, six executive of “The golden Fibre Trade Center”, eight employees who are engaged in raw jute export department, two professionals of jute market and one ex- government official of jute ministry were interviewed for the purpose of gathering the data regarding upstream jute and jute diversified products' supply chain.

3.1.2 Group Discussion

A group discussion was conducted to get more real view of the jute industry supply chain. Several higher officials from GFTCL and SIMCO (SIMURA Industrial & Mercantile Company Ltd) were present on that discussion. Different supply chain and marketing barriers and their possible way of solutions were discussed on that group discussion.

3.1.3 Secondary data

Number of books, online data base, and research papers from different well resound journals are used as the source of secondary data. Not only that some power point slides, company's brochures and some internal reports (With authority's permissions) are also used as a source of secondary data.

4. Conceptual Model

Based on the theoretical models, experiences, primary and secondary data the research has developed a conceptual model (Fig. 3) on upstream supply chain of jute and jute diversified products' supply chain.

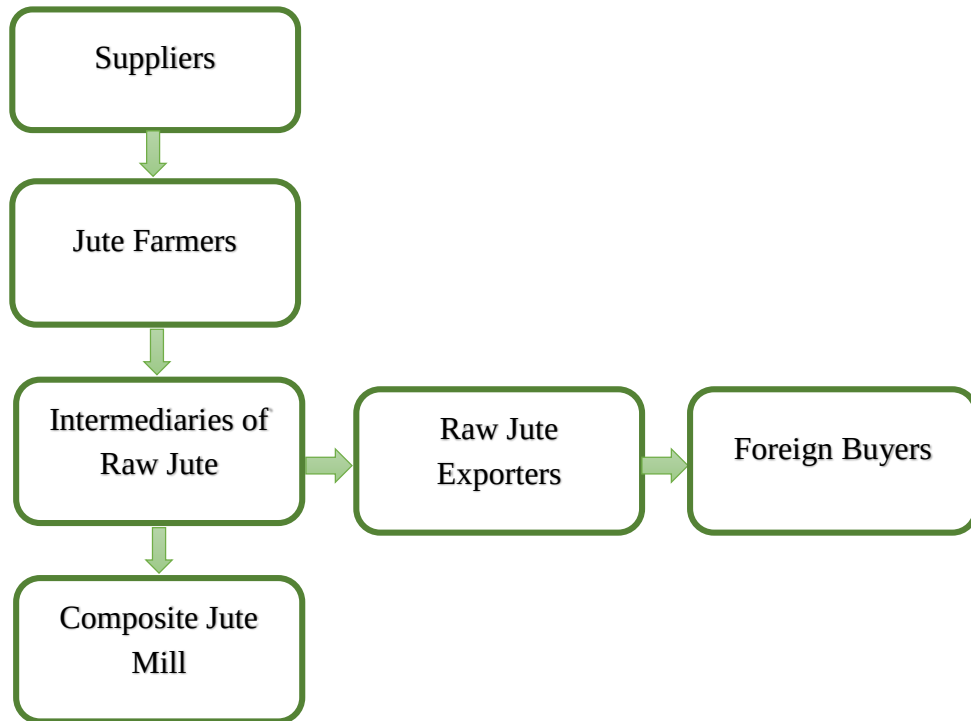


Fig. 3: Upstream Jute and jute diversified products' supply chain model.

The upstream supply chain starts with the suppliers of jute raw materials like seeds, fertilizers etc. and other resources like lands, finance etc. After getting the initial supply, the farmers' start farming and produce raw jute. Then the farmers sell the raw jute to the intermediaries. And lastly, through the intermediaries the raw jute moves to the composite mills or the exporters of raw jute. Composite mills are the last stage of upstream supply chain. After that the downstream supply chain starts and it leads to the productions of different diversified goods. However if the raw jute directly exported to the foreign buyers, in that case the intermediaries are the last stage of upstream supply chain of raw jute exporting business and the exporters and the foreign buyers are the part of downstream supply chain of raw jute exporting business.

5. Findings and Discussions of the Model

Upstream supply chain of jute and jute diversified goods' has different players in different stages which play different role throughout the supply chain. These stages are not operating effectively and efficiently. As a result the growth of jute industry is slowing down. The discussions and findings of the upstream stages are given below:

5.1 Suppliers

The basic inputs that are needed for jute farming are seeds, fertilizers, land, initial financing etc. In general cases farmers, who have lands, initially search for sources of finances to start farming. They generally take loan from different financial institutions or NGOs or "Mohajons", who gave the farmers loan at a higher interest rate. Farmers spend a portion of this loan money to buy seeds and fertilizers and keep the other portion for labor costs and irrigations. When the farmers cannot manage loan, then they buy the seeds and fertilizers on credit from the local market and work alone or with family members on the fields. At that time they had to depend on the nature for rain as they do not have enough money for irrigations.

In another scenario, most of the farmers do not have their own lands. In that case they lend the farming fields from the land owner and farm at his own costs. After harvesting, they share profit with the land owner. Sometimes the land owner also share some cost with the farmer, in this case the farmers have to give higher portions of profit to the land owner.

5.1.1 Problems of the Supplies

1) Unavailability of quality seeds:

According to the ref. [8], 82.5% of the seeds that the farmers used are collected from the local markets, 15% are self-seeded and only 2.5% farmers use the seeds that are supplied by the government [8]. Among them the seeds, supplied by the government, have better quality than the self-grown seeds and local markets' seeds. But the supplies of government seeds are very low. So finding no other options, farmers have to buy seeds from local market or use self-grown seeds.

2) Insufficient supply of fertilizers:

Farmers generally use Urea, TSP and MP as a fertilizer in producing jute. They use these fertilizers so that the production could increase. But the availability is a major issue here.

The supply is much lesser than the demand. That is why some time farmers have to buy the fertilizer at a double price.

3) **Higher interest rate:**

The interest rate for the loans that farmers take from different NGOs or non-governmental financial institutions is quite high. Again the interest rate of the mohajons is even higher than the NGOs and non-governmental financial institutions. As a result many farmers do not want to take loans, which hamper the overall production processes, quality and productivity of jute cultivation.

4) **Land fragmentation:**

Land fragmentation is a common problem in Bangladesh. The common reason behind this is inheritance rules. As a result the big lands divided into small pieces and when the farmers produce jute on that small land, he cannot gain economies of scale. And this is discouraging the farmers towards jute productions.

5.2 Jute Farmers

The second stage of upstream supply chain is the jute farmers. To understand this stage, their characteristics and their problems, we need to know about the classification of jute, jute production areas, the farming methods and how the raw jute moves to the primary market.

5.2.1 Classification of jute

Based on the colors jute has two types:

- i. White jute (*Corchorus capsularis*)
- ii. Tossa jute (*Corchorus olitorius*)

The difference between these two types of jute is given below:

Character	White jute	Tossa jute
Plant Height	Shorter	Taller
Color of fibers	Whitish	Yellowish, reddish, greyish
Fitness of the fibers	Coarse	Soft
Size and color of seeds	Bigger and Brown	Smaller and Blackish
Sowing time	End of February - March	April - Mid June
Harvesting time	July - August	September - Mid October

Based on the quality and geographical distributions jute is classified into three categories:

- i. Jat
- ii. District
- iii. Northern

The descriptions of these three categories are as followed:

Jat:

Jat is the best quality jute among all categories. It has both good length and color with good luster. Generally jat jute grows in the district of Dhaka, Maymensing, Tangail and Comilla because these areas are flooded almost every year and the flood carries fresh silts which is good for jute cultivation.

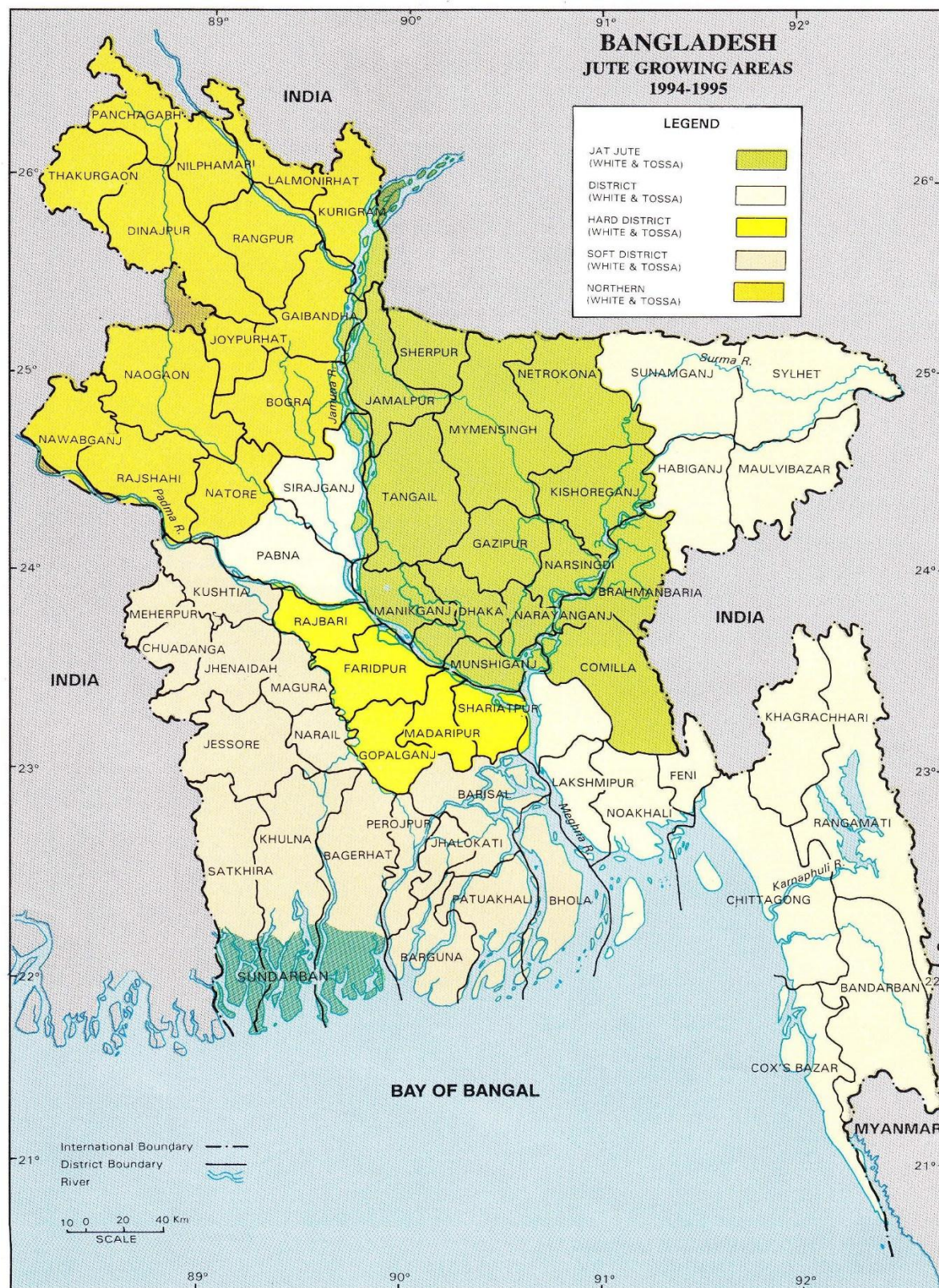
District:

District jute stands second in terms of quality. The color of district jute varies from light ream to dull grey. It is shorter than jat. There are two types of district jute. One is “Hard district” and the other one is “Soft District”. Hard district is comparatively better than the soft district. It grows in the district of Faridpur. On the other hand, the soft district grows on the district of Kustia, Jessore, part of Rajshahi, Pabna and Dhaka.

Northern:

Northern jute is the lowest quality jute. Generally it has dull colored fibers. The length of this type of jute is medium and its fiber is weak. It grows in the district of Rangpur, Sirajgong, East Bogra and part of Dinajpur.

A Conceptual Model of Upstream Jute and Jute Diversified Products' Supply Chain Management



Source: GFTCL's Brochure

5.2.2 Farming process of jute

Jute can grow in any tropical climate. The favorable temperature and humidity for jute production are respectively 70°F - 100°F and 70% -80%. Preparing the jute field perfectly is an essential part of farming process. Before sowing the seeds, farmers need to cross-plough and laddering at least 3-5 times. Then farmers start to sow the seeds. Generally the white jute is sown before the tossa jute. The most favorable time for planting the white jute is between ends of March to end of April. Whereas for tossa jute, mid-April to mid-May is the perfect time of sowing. Weeding is another important part of jute farming. In the first five weeks after sowing the seeds, the growth rate of jute is slow. In this time farmers weed the jute field at least 3 times in a month. Generally farmers do weeding by hand. It is more effective than the use of chemical weedicides. Jute can be harvested any time after it is 90 days until the grown seeds become mature. After harvesting, farmers bundle the jute in a required number and keep them standing for shading off the leaves. Then farmers put the jute under water for retting and after 12-15 days the fiber is separated from the sticks.

5.2.3 Selling of raw jute

After producing the fiber farmers sell it to the intermediaries in the local market or directly sell it to the mill. According to the research, in most of the time farmers have to sell it to the intermediaries in the local markets because farmers and the mills are unlikely want to do business among themselves. Mills do not want to buy from the farmers because each of the farmers produce 15-20 maund (1 maund = 40 Kg) of jute and mills buys several metric tons at a time. If the mill collects the required jute directly from the farmers then it will take much time and resources, which eventually increase their costs. On the other hand farmers do not want to sell the mills because mills buy on credits. As mentioned before, farmers take loans or buy seeds and fertilizers on credits, so they always have the burden to payback the loans or credits, which lead the farmers to sell the raw jute to the intermediaries at a lower profit but on cash. That is why farmers do not get the proper price of jute.

5.2.4 Problems of the farmers:

1) Low market access of the farmers:

Proper market information helps to decide the production quantity and the selling price of the products. But in Bangladesh, jute farmers do not have access to the markets. The main

reason behind this is illiteracy. As a result the bargaining power of the farmers is also low. They react on short term situations and let the intermediaries to take their profits.

2) Lack of scientific knowledge and modern tools:

Farmers still use traditional knowledge and tools for producing jute. Even in some areas, they do not aware of the new technology and methods like hybrid seeds, new retting process in less water etc. As a result the productivity is very low.

3) High labor costs:

Jute farming is very much labor incentive. Starting from land preparing, weeding, harvesting, separating fibers and carrying of jute to the market, every steps are required labor. But labor cost is very high. In jute cultivation, the human labor cost incurs almost 77% of total costs [8]. The study have found that on an average a labor is cost BDT 350-400 per day and farmers need 2-3 labors in every 0.05 acre of land several times during the cultivation periods. This higher labor cost is eventually reducing the profit of poor farmers.

4) Pest attacks:

Pest attacks on jute plants is very common in Bangladesh. Besides the price of pesticides is also very high. As a result farmers cannot buy necessary pesticides which eventually lead toward bad quality fibers.

5) Insufficiency of retting water:

The research have found that farmers do not get enough water or watery place for retting the jute plants because rivers, cannels and beels are drying day by day. Jute plants need certain depth of water to ret properly and without that producing good quality fiber is not possible.

6) Natural calamities:

Natural calamities are another problem for jute farming specially hail. Hail damage the fiber, leafs and seeds of the jute plants. Besides less rain, drought, flood after sowing seeds etc. also hamper the jute productions.

5.3 Intermediaries

Intermediaries play a vital role in the upstream supply chains of jute and jute diversified products. The research has found the existence of different types of intermediaries and they are known as

their own local names. These intermediaries play different roles and add different types of values in different stages of upstream supply chain.

5.3.1 Types of intermediaries in the upstream supply chain:

1) Farias:

Farias are the middlemen who buy mixed and unsorted jute from different farmers. Generally they buy 10-15 maund from each of the farmers and sell to the next stage intermediaries at a lot of 50-100 maund. They buy from the local markets or directly from the farmyards of the farmers. They are mostly seasonal traders and their business are small, compared to the other intermediaries. The research has found that farias start buying with a capital of around BDT 50 thousands to 1 lac and generally they have a profit of 50-70 taka in every maund. Some farias have their own storage facilities on their house but mostly after buying, they store the raw jute on the farmers' dwelling for a short period time.

2) Baparis

Baparis buys the mixed and unsorted jute from the farmers or the farias and sell it to the next level intermediaries or sometimes directly to the exporters or the mills. They generally do business with large quantity of products. The research has found two categories of baparis. One is **small baparis** and other is **large baparis** also locally known as “Big Seller”.

The small baparis not only deals with jute but they also have licensed of trading other crops like wheat, rice, pulses etc. They generally buy from the farias and farmers, then sell it to the large baparis or to the next intermediaries. They do not have their own storage facilities. They buy jute and store it on the faria's or the farmer's storage facilities for a short period time and at the time of delivery, they transport it at a lot of 50/60 maund. Generally they start their trading with a capital of around BDT 1-2 millions.

On the other hand, the large baparis are the professional jute traders. They only deal with the jute. They supply the exporters and the mills at a large volume. Generally the mills and the exporters buy from the large baparis on credits and pay very steadily. The large baparis have their own storage facilities. They normally start their trading with a capital of around BDT 8 million – 2 billions.

As an exporter, GFTCL also buys from both the large and small baparis. Based on the required quantity they chose their suppliers. GFTCL generally buys from the small baparis on cash. But when they buy from the large baparis, they buy on credit and after getting the payment from the foreign buyers, they pay the credited amount to the baparis.

3) Kutcha Balers:

Kutcha balers mainly buy the loose and unsorted jute and do an initial visual sorting based on color of the raw jute. After initial sorting they prepare a loosely pressed bale of raw jute. These processes are mainly known as kutcha baling. The weight of this type of bale is varied from 120 to 150 kg. Then the kutcha bale moves to the next intermediary, the exporters or the mills.

4) Pucca Balers:

Pucca balers buy the kutcha bales from kutcha balers or unsorted and loose jute from the baparis. Then they do full sorting of the raw jute according to the commercial grades or the export grades. They cut the hard root and other unnecessary part of the jute fibers and pressed it hydraulically to turn into pucca bales. The standard weight of the pucca bale is 180 kg. Pucca baling is mandatory for exporting raw jute. Generally exporters buy the pucca bales. Generally composite mills do not want to buy pucca bales because it is hard task to loosen the pressed jute from the pucca bales for further processing.

5) Government Purchase Center:

Government set multiple purchase centers throughout the country so that the farmers can directly sell their jute at a standard price. Sometimes baparis also sell their jute to the government purchase centers. Then from the government purchase center, these jute moves to the mills or to the exporters.

6) Private Mill Agents:

Private Mills like GFTCL have some agents who operate between the farmers and the mills. They have direct communications with the farmers. Mainly they work for commissions. Locally they are known as “Dalal”.

5.3.2 Intermediary Channels:

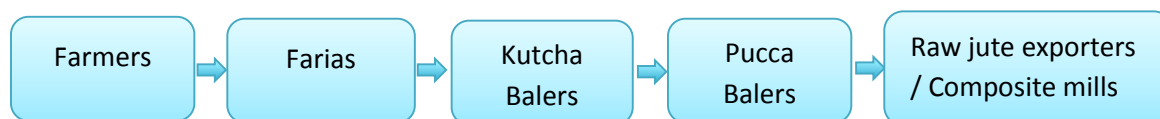
Between those above mentioned intermediaries, different channels are existed. Some common channels are as followed:

Channel 1:



In a standard channel, where every intermediary takes part, farmers sell the raw jute to the farias. After buying from different farmers, farias sell it to the baparis at a big lot. Baparis then sell it to the kutcha balers and after processing, the kutcha balers sell it to the pucca balers and lastly pucca balers sell the compressed jute to the exporters or the composite jute mills.

Channel 2:



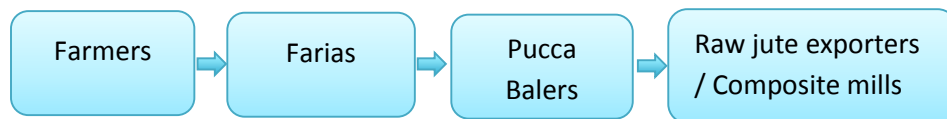
Beside the standard channel, farias can collect the raw jute from the farmers and directly sell it to the kutcha baler. Kutcha balers sell it to the pucca balers and finally pucca balers sell it to the exporters and the mills.

Channel 3:



In this channel, farias collect the jute and sell to the kutcha balers. Then kutcha baler directly sell to the exporters or the mills. In this case the exporters have their own pucca bailing facilities. Here the exporters processed the kutcha baled jute and prepare it into pucca bales. On the other hand, after buying it from the kutcha balers, mills do grading and send it for further processing to convert it to diversified products.

Channel 4:



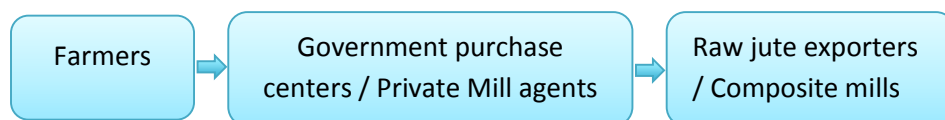
Sometimes the pucca balers directly buy the unsorted jute from the farias. Than they do grading and compressing and turned it into the 180 kg pucca bales. After that, it is sent to the foreign market through the exporters or sent to the composite jute mills.

Channel 5:



Sometimes baparis directly buy from the farmers. In this case, farmers receive an advance from the baparis before harvesting and do an oral contact by fixing the jute price. Then the baparis sell the jute directly to the exporters or the mills. In this case the exporters and mills have the facilities like channel 2.

Channel 6:



Here the farmers directly sell to the government purchase center or to the private mill agents at a better price compared to the local markets or the other intermediaries. Then the exporters buy from the purchase centers. And the rest of the jute moves to the mills for further processing.

5.3.3 Problems of the intermediaries:

1. Irregular payment of credits:

Mills and exporters buy the raw jute from the baparis on credit. But they pay the payments irregularly. The research has found that sometimes it takes the big baparis almost a year to get the full payment of an order, from the mills or the exporters.

2. Insufficient storage facilities:

In sufficient storage facilities is another major problem for the intermediaries. As a result, big baparis and balers generally store the jute in a rented warehouse which eventually increase the cost. Furthermore, Farias and farmers keep the raw jute on their own dwellings without any precautions which hamper the quality of fibers.

3. Dishonesty of intermediaries:

Farias sometimes mixed low quality jute with the good one to increase the volume and get more profit. Not only that, sometimes traders mix water with the jute to increase the weight.

4. Market fluctuations:

Price and demand are always fluctuating in the jute industry. As a result, traders always remain uncertain about the profit.

5. High transportation cost:

Jute mainly cultivated on the rural areas of Bangladesh and the roads and transportation facilities of the rural area are not so good. As a result traders have to pay high transportation costs to move the raw from farmers to other intermediaries or customers.

5.4 Composite Mills:

The last stage of jute industry upstream supply chain is composite mills. Through the intermediaries the jute fiber moves to the composite mills for further processing which results different types of diversified goods. Composite mill can buy loose jute from baparis or kutchi bale from the kutchi balers or pucca bale from the pucca balers. When the mills buy loose jute they do full assortment, grading and cutting and prepare the loose jute for further processing. If the mills buy the raw jute from the kutchi baler, then the assortment process would be little bit easier for them. But they have to do cutting and grading for further processing. Lastly, when the mills buy from the pucca balers, they do not have to assort it further. But in this case they have to face some problems to loosen the jute from the pucca bales.

5.4.1 Problems of the composite mills

1. Low productivity:

To produce diversified goods, mills have to go through a lot of processes. Productivity is a major issue here because workers are not skilled or properly trained. Furthermore the mills do not use modern technologies or machineries, which also responsible for low productivities.

2. Inappropriate market forecasting:

Composite mills do not have proper skills in forecasting the market demand, especially the public mills. They buy huge quantity of raw jute and produce vast quantity of diversified good without proper estimation of market demand. As a result, large amount of diversified goods remain unsold.

5.5 Downstream Supply Chain of Raw jute Exporting Business

Though this research is only focusing on the upstream supply chain but to get the whole picture of supply chain of raw jute we need to discuss the downstream part of the raw jute exporting business. And the downstream part of raw jute exporting business includes two stages and they are:

5.5.1 Raw Jute Exporters

Mainly they are the traders who deal between the foreign buyers and the raw jute suppliers. They have their own license to export. They collect the pucca bales from the pucca balers and arrange shipment to send it to the foreign markets. Some raw jute exporters have their own pucca bailing facilities as mentioned before. On that case the exporter buy the loose jute from the baparis or buy the kutchra bales and processed it and shipped it to the foreign market.

GFTCL is also a raw jute exporter. They collect the raw jute from the baparis and do further processing on their own factory. They have their own bailing facilities. After cutting and grading on export standard, they made the pucca bale and sent it to the foreign buyers.

5.5.2 Foreign Markets

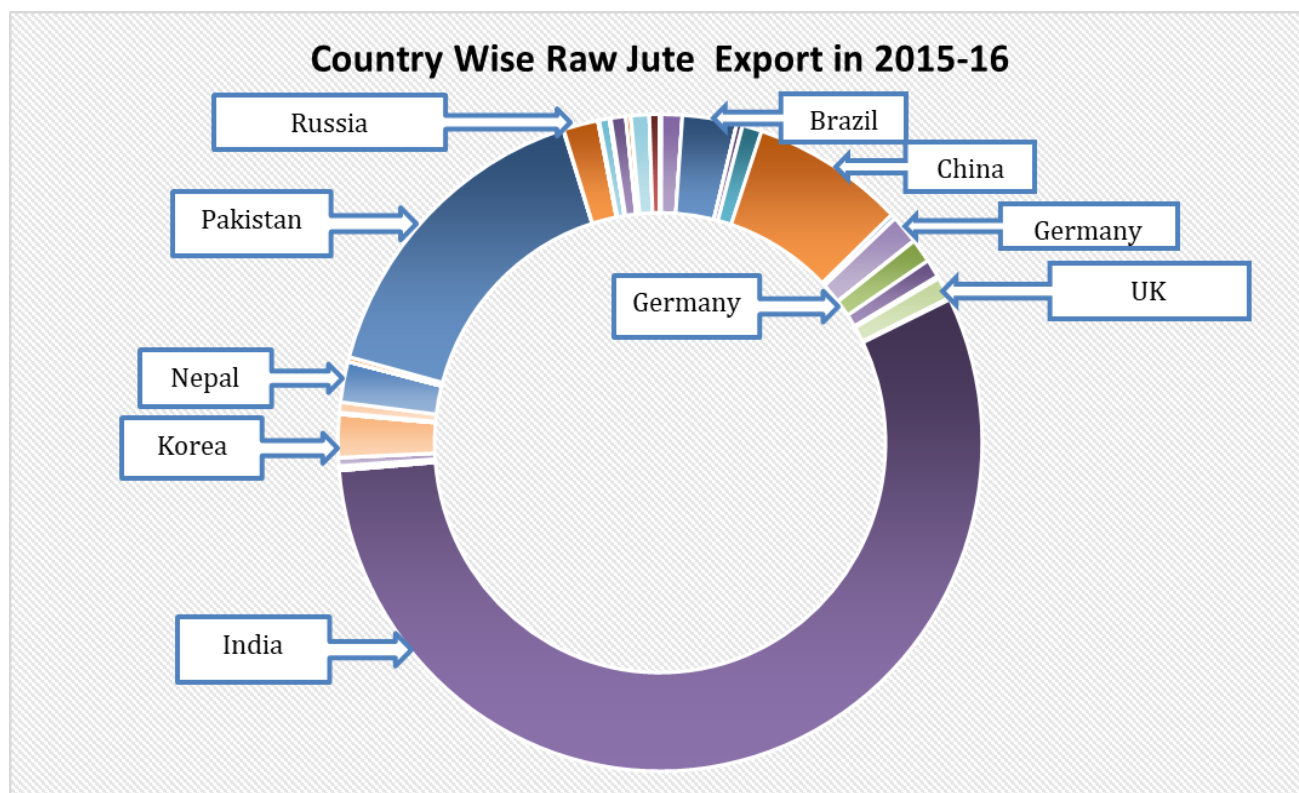
Bangladesh is the second largest raw jute producer but largest raw jute exporter in the world. And the quantity is increasing day by day. The statistics of raw jute exports from Bangladesh is given below:

Year	Export of Raw Jute (Value in Millions US\$)
2008- 09	148.21
2009- 10	196.27
2010- 11	357.28
2011- 12	782.12
2012- 13	229.92
2013- 14	126.39
2014- 15	111.57
2015- 16	173168

Sources: Export promotion Bureau of Bangladesh. (Export Statistics Book 2015-16)

Table 1: Statistics of raw jute exports from Bangladesh

According to the “Export Statistics Book 2015-16”, from 2001 to 2016, Bangladesh has exported raw jute to 90 countries throughout the world. Among them India, China, Pakistan, Korea, Nepal, Russia, Brazil, UK were the major buyers of raw jute in 2015-16 (Fig. 4). Although the export quantities have decreased in Europe for different reasons but Asia is still an active market for raw jute.



Sources: Export promotion Bureau of Bangladesh. (Export Statistics Book 2015-16)

Fig. 4: Country wise raw jute export in 2015-16

5.5.3 Problems of the downstream supply chain:

1. Shrinking global demand:

Global demand of the raw jute is decreasing day by day. China, turkey, different European countries etc. had good markets of raw jute. But now a days the labor cost of processing raw jute have increased. That is why those countries have decreased the quantity of importing of raw jute. Now they directly take yarn or fabric from Bangladesh and prepare various diversified goods.

2. Anti-dumping duty by India:

India was a major buyer of Bangladeshi raw jute. But they have imposed an anti-dumping duty on Bangladesh's exports of raw jute and other diversified jute goods in end of 2016. Many exports have to close down their business after this decision.

3. Conflicts and economic crisis in word market:

Middle East and African countries have also imported a huge quantity of raw jute and traditional jute goods. But conflict in Iraq, Syria and Egypt have impact their import quantities. Not only that the economic crisis of African countries also affecting the raw jute exporting.

6. Recommendations

The above mentioned problems in different stages of upstream supply chain are slowing down the overall jute industry growth. To make the jute industry upstream supply chain more efficient, effective as well as more productive, some recommendations are given below:

1. **Ensure adequate supply of Seeds and fertilizers:**

Government should ensure the adequate supply of seed and fertilizer for jute cultivations. Government can employ local agents in every area where jute is cultivated and supply good quality seeds and fertilizers at a reasonable prices. Besides, government should invest more on research and developments so that more quality and productive seeds and fertilizers can be innovated and supplied to the farmers.

2. **Provide training to the Farmers:**

Government, different NGOs and other public and private organization should give a combine effort to train the farmers about the technical and efficient way of farming. This type of training will help the farmers to update their knowledge and improve the jute cultivation methods.

3. **Co-operative farming:**

Farmers should form cooperative associations both in producing and selling the jute. Cooperative farming system will eliminate all the barriers of land fragmentations as well as it will increase the market access of the farmers. Farmers association can sell directly to the government purchasing centers or the big baparis at a fair price and this time the transportation cost would not be an issue.

4. **Credits on easy terms:**

Government should pass a law to give easy terms loan at a low interest rate to the jute farmers. This will protect the farmers from the heavy burdens of interest of the mohajons. Not only that, this will help the farmers to buy quality seeds and fertilizers and use enough labor for the cultivation and harvesting processes.

5. **Improve transportations:**

Good transportation facilities are not only necessary for the jute industry but also for the overall economic development of the country. Transportation modes and the roads should be improved. This will play a major role in reducing the overall production costs and also help the farmers to get higher price of jute.

6. Increase the number government purchase centers:

Government should increase the number of government raw jute purchase center so that farmers can easily get access to them and sell their jute at a fair price.

7. Enable proper communications among the stages:

Steps should be taken to establish communications among the stages of upstream supply chain. This will help the suppliers, farmers, intermediaries and the mills or exporters to forecast the upcoming demand and to take necessary precautions to face the upcoming situations and meet that demand. For this, government can publish, broadcaster or use other modes of communication to give market information and update those stages all time.

8. Stop price fluctuations:

Government should continuously monitor the market price or maybe they could fix the prices range in different stages of raw jute movement in every year. This will keep the market price of jute stable throughout the year.

9. Establish adequate storage facilities:

More storage facilities should be established so that farmers and the intermediaries can store the raw jute in a proper way and sell them in off seasons when the price is comparatively better than the harvesting season.

10. Ensure stable political situation:

Political unrest hampers the supply chain activities and the market functions of any industry. It is also a major problem in jute export business, especially at the time of shipments. So government and opposition parties should come to a mutual point and keep the overall political situation stable for the economic growth of Bangladesh.

11. Co-ordinations among the competitors:

Competitions among different intermediaries hamper the standard price structure of an industry, especially at the time of exporting. Traders try to lower the price of their products from their competitors to get foreign business and foreign customers take this chance and negotiate with different traders at a time. As a result the country is losing many foreign currencies. If the trades come to an agreement and export cooperatively, then they can sell their products at good price and gain more profits. And by this way a country can earn more foreign exchange from exports.

12. Fixed payment terms for the intermediaries:

As the exporters and the mills buy on credit, so government should enact a fixed payment policy for them. This will help the intermediaries to get their payment at the right time.

13. Continuous market monitoring:

Government should continuously monitor the jute market so that no one can do any type of dishonest activities like syndicating by creating an intentional shortage to increase price, mixing bad quality jute to increase quantity, watering jute to increase weight etc. Government can engaged some mobile court to prevent these types of dishonest activities.

7. Conclusions

It can be concluded that the upstream supply chain of jute and jute diversified goods includes four stages which starts with suppliers of jute cultivations' raw materials and resources. Then the farmers produce raw jute and through the intermediaries it moves to the mills. And in this case mills are the last stage of upstream supply chain. But if the raw jute is directly exported, than the upstream supply chain includes exporters, farmers, and intermediaries. And downstream supply chain includes exporters and the foreign markets.

This research has discussed all the stages and attempts to identify all the problem of those stages. Throughout the research it is cleared that the farmers are the most deprived one in the whole upstream supply chain. They had to suffer most in every steps starting from supplies, cultivations, harvesting and even the price they get sometimes do not cover their production costs. On the other hand, it is also clear that the intermediaries dominate the whole upstream supply chain most. There are different channels of intermediaries existing in the market and they are adding different types of values. Though they are cutting profits of the poor farmer but it cannot be denied that they are playing very important roles in the whole supply chain. Lastly the research has given some recommendations for the betterment of jute and jute diversified supply chain. These recommendations will help the concern parties to improve the productivity, effectiveness and efficiency of their activities which eventually secure the growth of jute industry.

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