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Exploring Constraints and policy guidelines of Eco-friendly Jute Micro-Enterprises Development in Bangladesh

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Abstract:

The study investigates the obstacles face by eco-friendly jute micro-enterprises in Bangladesh. The principal source for collecting data was the face to face survey during February to June 2015. Moreover, a few qualitative interviews were also conducted. The data was collected from 150 jute micro-enterprises located in Dhaka, Narsingdi, Tangail and Rangpur. A principal component analysis approach was used to rank the highest and lowest obstacles factor for doing business in jute micro-enterprises of Bangladesh. Among major obstacles, Human Resource related constraints was ranked highest constrains which items are included such as lack of skilled workers, high labor cost and no appropriate training facilities. In addition, the second highest ranked obstacles were labeled as Financial and resource Constraints. Second component consists of six items such as lack of loan facilities, lack of availability of capital; lack of raw materials, lack of quality fabrics, high price of raw materials, and long process of loan approval. The other obstacles respectively determined by the principal component analysis included "third constraints is labeled as physical resource constraints (utility shortages, lack of supporting factories), fourth is labeled as marketing and policy inputs constraints (lack of foreign customers, lack of incentives for jute diversified products, lack of market information, modern equipments, research and development facilities. Besides from the qualitative study it is found that corruption and long process in getting benefits from government offices incentives and other benefits, Lack of raw materials bank (RMB) in the districts level, High fees in national and local trade fair (Bengali: Mela), lack of training program on diversified designs, lack of knowledge on eco-compliance which also causes of slow growth. Research concludes that the findings of the study will have practical implications for policies makers to overcome major obstacles for the environmental friendly jute micro-enterprises development in Bangladesh.

Keywords: Eco-friendly, Jute, Micro-enterprises, Development, constraints, Bangladesh

1. Introduction

Bangladesh is an agriculturally based country. The country produces the best-quality jute in the world¹. It has a core competency in jute production. Jute-based micro-enterprises development is considered as a potential industry for economic growth and development which will assist to reduce poverty and unemployment in Bangladesh. Micro enterprises development (MED) is an income generating strategy that helps low- and moderate-income people start or expand very small businesses. Micro enterprises development is an approach to poverty alleviation that encourages the formation of small businesses which interact for community wellbeing (Novogratz, 1994). There is a context of the Bangladesh experiences itself in to which micro enterprises development fits-which has social history that also shows personal freedom and the right to fully recognize the possibilities of the individual. Microenterprises development as a term incorporates three distinct concept that of entrepreneurship and that of development. The theory of entrepreneurship emanates from neoclassical economics, most notably the writing of Schumpeter (1934), to explain how and why an economy or market place grows and changes, who are the actors of that change, what must they do and be to create positive shifts within market place. On the other side of the coin development theory concentrates on the sets of social and economic activities that lead to positive change in the measures of the total economy. Micro enterprises development is an art. Micro business development means collectively uplift the community structurally, moving people first to subsistence and then to sustainable wellbeing through entrepreneurial actions of an individual. According to the United Nations Environment Programme (UNEP)², the green economy defined as "One that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities." For this reason,

¹ https://en.wikipedia.org/wiki/Jute_cultivation

² <http://www.unep.org/rrio20/About/GreenEconomy/tabid/101541/Default.aspx>

green micro- businesses help reduce, mitigate, prevent and enhance capacities to cope with climate change risks while developing and least develop nations need them more than business as usual.

There is no a general approach on how to measure the development of enterprises, for this reason researchers use various indicators to measure it (Barkham et al., 1996). However, some of the variables that researchers use much more are increase of employment, sales and revenues for a specific period of time, because the collection of those data and their measurement is easy and simply (Delmar et al., 2003). Even for this paper have been used the same primary indicators for measuring the development of enterprises. In this research we will try to explore the factors that influence the growth and development of eco-friendly jute micro enterprises in Bangladesh. In this context we analyze the impact of external and internal factors that most influence the development of eco-friendly jute micro enterprises in Bangladesh.

1.1. Nature of Barriers of Micro-Enterprises Development

In Bangladesh, micro and small enterprises did not find sufficient financial resources with favorable terms and conditions to run their venture which make slow the process of expansion. Moazzem (2005) stated that many problems are common of micro and small enterprises in Bangladesh such as lack of interdependence between different categories of firms, structural constraints, lack of favorable environment, lack of source of capital, short life of enterprises, availability of raw materials and market access, lack of skill & knowledge, lack of network and strategies etc. Saha (1997) showed in his research, Bangladeshi micro and small business faces difficulties for example; 31% marketing problem, 22% management inefficiency and lack of entrepreneurial skills, 14% faulty project planning and appraisal, 12% imbalance of machinery and inappropriate technology, 12% implementation delay, rest of the problems like diversions of funds labor problem, etc. He also observed external constraints i.e. delay in loan sanction and disbursement, non-availability/ shortage of working capital, power problem, frequent changes in government policy (import liberalization), non-availability/irregular supply of raw material and other critical inputs, natural calamities, smuggling, political unrest.

Other study found that in Bangladesh micro enterprises have been facing multifarious constraints such as raw materials, power, suitable place, marketing, transportation, technical facilities and financial (Ranjit and Rashid, 1996). According to Alam (2007) enterprises of Bangladesh has lot of hindrances which are inadequate government policy, high rate of interest on bank loans, lack of accurate data, lack of skilled technicians and workers, Lack of government subsidy, poor quality of product, insufficient marketing information, and lack of research and development facilities.

On the other part of the coin, micro and small enterprises of India are facing financial, non-financial challenges and even low awareness of the adverse social and environmental impacts. They are not conscious about social and environmental standards from this sector 27 million involve and earn a big chunk of national revenue (Giz, 2012). International Finance Corporation (IFC) also focused on micro and small enterprises for developing local markets through institution building, use of innovative financial products and mobilization and they provide financial support for micro and small enterprises through their financial intermediaries (IFC, 2012). A number of studies identified that micro and small enterprises are frequently faced with constraints and challenges like financing, institutional, legal administrative and network support barriers (Bannock et. al., 2002). Most of the micro enterprises face similar nature of constraints but it also varies sector to sector. Constraints of jute micro enterprises are still unexplored through proper academic research. It is expected that this study will explore the constraints of jute micro enterprises for taking required measures and actions to promote and develop sustainable eco-friendly jute sector.

1.2. Understanding Eco-status of Jute and Jute Products

An eminent jute researcher, Rahman (2012) noted "Sustainability is the fundamental phenomenon in today's world. Sustainability of jute cultivation system has found linked with such as a) availability of resources and carrying capacity b) efficiency in resources use c) equity in resources share d) intergenerational equity and e) environmental dynamics and constants." To be sustainable every process is required ecological compatibility and economic compatibility. The researcher concluded that jute production is environmental friendly through his research EMERGY analysis on jute production system.

In additional, Roy (2010) argued that three criteria are very much important for environmental recognition such as resource depletion, pollution and human health. Industrial activities hugely affect the global environment and all living being as well. In this regard, all are trying to meet challenges like raising population, pollution and the finite availability of non-renewable resources. It is assumed that the natural fiber represents for 35% of the total usage of textile fiber. Several drawbacks of using artificial fiber or synthetic have found which motivates to change our mind. "Reportedly, 1.0 MT of Synthetic fibers require 5.0 MT of oil, while 1.0 MT of natural fibers needs only 0.04 MT" (IJSJ, 2010 P; 133)

Basis of Comparison	Jute Sacks	Synthetic Sacks
Raw Materials	a) Use of Chemicals as fertilizers/pesticides (7-53 kg/ha) during jute cultivation may be considered insignificant. b) During retting of jute, methane gas is mostly generated which has been estimated to be 1-2 m ³ /kg of solid material or 1.43 kg methane/kg of jute fiber. c) The green leaves left behind in the field after harvesting are rich in minerals and act as manure. There is no authentic study reporting on health hazard due to retting water	Synthetic fiber production from mineral oil as well as refined natural gas is associated with generation of toxic air, pollutants like ammonia, lead, methane, toluene and xylene
Wastes	After fiber extraction, the left-over sticks are mainly Consumed as fire wood for cooking During Manufacturing bags in jute mills, 5% of jute processed becomes waste and is either recycled in the process itself in subsequent times or consumed as boiler fuel	5.5 MT of non- biodegradable wastage are generated for every MT of polypropylene right from the extraction of mineral oil to the stage of fiber extraction
Energy Consumption	Total energy consumption during jute agriculture and jute sack production is 10.0 GJ per MT of jute fiber	The production of polypropylene fiber from granulas an energy of 84.3 GJ per MT of polypropylene fiber
Energy Consumed (Lifetime)	4500 KWH/TMHLT*	INR 8.63/TMHLT
Water Consumption	161 litre/TMHLT*	0.61 litre / TMHLT*
Non-renewable natural resource usage	Nil	0.2 million MT of crude oil per year
Pollution abatement cost	INR 1.21/TMHLT*	INR 8.63/TMHLT
Disposal Effect	Jute is biodegradable and therefore does not cause any environmental pollution during disposal	Due to non-biodegradability, synthetic sacks are disposed through any one of the three routes: recycling, land filling and incineration, each of which causes serious environmental pollution

Table 1: Comparative Salient Features on Life Cycle of Jute vs. Synthetic Products

*TMHLT- Ton of Material Handled During Lifetime,

Source: Roy (2010, P-144)

2. Methodology

This study employed a research design of mixed methodology, i.e. the researcher combines aspects of the qualitative and quantitative paradigms at many methodological steps in the research design (Bryman, 1988; Brewer and Hunter, 1989; Mathison, 1988, Morse, 1991; Miles and Huberman 1994, Creswell, 1994; Creswell, 2003). The sample was selected from existing population listed in JDPC and NGOs to ensure representation of all size categories. 150 jute micro-enterprises were selected from located in Dhaka, Norsingdi, tangail and rangpur during February to June 2015. Moreover, a few qualitative interviews were also conducted. The sample was included who are producing eco-friendly jute micro-enterprises. The statistical software SPSS (Statistical package for Social Science) 20.0 version was used to analyse the quantitative data. A PCA (Principal Component Analysis) was used for determining constraints of jute micro-enterprises as growth barrier. The scale to measure the obstacle face by jute micro-enterprises was Likert scale ranking Very High to not at All (Very High-4, High-3, Moderate-2, Low-1, Not at all-0). The instrument was two major parts. The first section is demographic characteristics of jute micro-enterprises while the second section is related to the obstacles faced by jute micro-enterprises. Moreover, thematic approach was followed to analyse and interpretation qualitative data according to objectives of this study. Qualitative data are in the form of text, written words, images, phrases or symbols describing or representing people, actions and events in social life (Neuman, 2003). The scale for measuring obstacles instrument items was also adopted from the previous study for more depth understanding of Jute micro-enterprises obstacles (Olawale and Garwe, 2010).

3. Results and Discussion:

3.1. Demographic Features of Jute Micro Entrepreneurs and Enterprises

Findings in (table 1) revealed that most of the entrepreneurs are aged (35 to 40) around forty and males are dominantly involved in this business. Their education level varied from 0-18 years of schooling. It is observed that, their average education level is up to higher secondary level. Majority of the entrepreneurs has received training and workshop from different organizations and it is also found that jute micro entrepreneurs has been motivated or promoted by training and workshop. Among them a good number of enterprises did not receive any training. Large part of them invested as initial investment around BDT 50,000 in their business. Entrepreneurs usually spend in business 4-15 hours in a day. They are self-motivated entrepreneurs. Most of them are sole proprietorship ownership status. The enterprises are located in the residential areas (urban and semi-urban) where they are living but not in the commercial or industrial area. Lion's shares of them are satisfied about their enterprise's location.

The workers range 4-25 were employed for running their enterprises as artisans or workers. On average 11 artisans or workers are working in each enterprise. Greater numbers are not getting chance to access overseas customers. Every enterprise is principally making about 9 categories of jute products. The above findings show that characteristics of entrepreneurs and enterprises structures of the jute micro-enterprises.

Table 2 shows that 96.0% respondents are started their enterprises by personal savings and 26.7 % from other sources such as relatives and friends while only 21% is getting access for loan from NGOs (micro credit) and bank.

Finding shows (table 3) that 76.7 % enterprises collect raw materials from raw bank (RMB) of JDPC and 6.7 % enterprises collect raw materials from government owned jute mills. On the other hand, 43.3% respondents also collect raw materials from open market and jute farmers.

Constraints of Eco-friendly Jute Micro Enterprises Development in Bangladesh: Factor analysis is a data reduction technique used to reduce a large number of variables into small of set factors which is manageable form and size for the essential information. Cureton and D'Agostino (1983) explained factor analysis as "a collection of procedures for analyzing the relation among a set of random variables observed or counted or measured for each individual of a group". To facilitate an easier interpretation of principal components, factor rotation method was developed. This research study uses varimax orthogonal rotation method developed by Kaiser (1958). Principal components with Eigen values greater than one are usually retained. In addition, for checking data normality and sample advocacy, Kaiser-Mayer-Olkin (KMO) measure and Bartlett test of sphericity is frequently used by different researchers. If Bartlett's test of Sphericity is large and significant and KMO is greater than 0.6 then factorability is assumed. High value of KMO between 0.5 and 1.0 indicates the data feasibility for factor analysis (Leech et.al.2005)

The result of this study is .727 from KMO test and significant Bartlett's test of Sphericity as $p < 0.01$ table 4 Kaiser (1960) pointed out accepting value greater than 0.5 considered as acceptable values while values between .8 and .9 are excellent. Hence the test supports the appropriateness of the principle component analysis technique.

For transferring the component into factor, a varimax rotation was used in study. Generally, components should be retained which Eigen values greater than one in PCA. SPSS-20 has identified 16 linear components within the data set. The Eigen values associated with each factor represent the variance explained by that particular linear component and Eigen value in term of the percentage of variance explained. The table 5 shows that four components with Eigen values greater than one account for 58.941% of the total variance. Component one is labeled as Human Resource Constraints. According to table 5 the first component has an Eigen value of 4.185 with variance percentage of 26.158%. The table 6 shows first component consists of three items. The items included in this component include skilled workers (.977) which are the item with highest factor loading. Rest of the items include labor cost .974; training facilities .965. The Cronbach alpha of these components is 0.987 which indicates reliability of the cluster.

Furthermore, in table 5 second component has an Eigen value of 2.448 with variance percentage of 15.299%. Component second is labeled as Financial and resource Constraints. The table shows 6 second component consists of six items. The items included in this component include loan facilities (.701) which are the item with highest factor loading. Rests of the items include Availability of capital .633; raw materials .582; Quality fabrics .565; Price of raw materials .559; Loan approval .468. The Cronbach alpha of these components is 0.713 which indicates reliability of the cluster.

In addition, table 5 third component has an Eigen value of 1.737 with variance percentage of 10.854%. Component third is labeled as physical resource Constraints. The table shows 6 second component consists of six items. The items included in this component include Utility shortages (.974) which are the item with highest factor loading. Another item of this cluster includes Supporting Factories .966. The Cronbach alpha of these components is 0.965 which indicates reliability of the cluster.

Finally, in table 5 fourth components have an Eigen value of 1.061 with variance percentage of 6.629%. Component fourth is labeled as marketing and policy inputs Constraints. The table shows 6 second component consists of five items. The items included in this component include Contact with foreign customers (.673) which are the item with highest factor loading. Rests of the items include Incentives for Jute diversified products .599; Market Information .500; Modern equipments .498; Research and development facilities .422. The Cronbach alpha of these components is 0.665 which indicates reliability of the cluster.

Besides, several constraints has been found in depth interview and key informant words like corruption and long process in getting benefits from government offices incentives and other benefits, Lack of Raw Materials Bank (RMB) in the districts level, High fees in national and local trade fair (Bengali: Mela), lack of training program on diversified designs, lack of knowledge on eco-compliance which also causes of slow growth. One respondent said "My enterprise is in Tangail, there is no Raw material Bank. When I need fabrics than I have to go Dhaka for collecting fabrics, sometimes it is very

difficult to go capital city. We also do not get diversified fabrics as we expect. Sometimes we do not get any information regarding meetings, and fair etc." (In-depth Interviewee). It is observed that jute diversified entrepreneurs are not getting appropriate input facilities. One key informant explained "There are very few dyeing and laminating factories, but I think these are very far from micro jute enterprises. For example, some micro entrepreneurs making bags and others products are from Tangail or Rangpur but they should come to Gazipur of Dhaka to laminate the fabrics. It is very time consuming and this adds the production costs. But available lamination factory at Dhaka city because of garment factory are available there."

3.2. Concluding Remarks and Policy Guidelines

Jute micro-enterprises are new approach for solving economic, social and environmental challenges in Bangladesh. The demographic features show that the youth people are more involved with jute micro-enterprises, particularly women are also involved in this entrepreneurship. From the study, it has been found that both literate and illiterate people are also involved with jute micro-enterprises. In Bangladesh, youth unemployment rate is rising every year which creates a lot of economic and social challenges. But overall business performance is not satisfactory which leads the demand for the capacity development in product design with innovative features. Otherwise, the enterprises run in average mode which incurs losses and frustration in business. In addition, jute micro-enterprises face marketing and policy related barriers such as less chance to get foreign buyers, lack of incentives, proper market information, lack of modern tools and lack of research regarding jute micro-enterprises development.

The study also discovers unexpected situation which is considered as constraints of jute micro-enterprises development such as specialized human resource related to constraints such as lack of skilled designers and workers, high cost of skilled workers and lack of tanning facilities. It has linkage with the lack of institutional facilities in the previous section. Financial and Resources constraints are also facing jute micro entrepreneurs; for example, lack of loan facilities, lack of raw materials, shortage of quality fabrics, high price of raw materials and long process of loan approval. The study also notices physical resources constraints such as price and shortage supply of utility; supporting factories like laminating and dyeing factories.

3.3. General Policy Guidelines

These above findings have important policy implications. In particular the following initiatives should be taken by the concern authority or sector for creating entrepreneurial eco-systems toward development of jute entrepreneurship development in Bangladesh.

Providing Support to Jute Farmers: The government can ensure best quality jute production through the Department of Agricultural Extension (DAE), Bangladesh Agricultural Development Corporation (BADC) and Department of Jute. Providing quality seed and other inputs to jute farmers: for producing best quality jute fiber which is very much essential for good quality jute products. Accordingly, jute farmers should receive quality seed and other inputs at the right time at the right place. Besides, providing training and awareness on modern farming and ribbon retting method and ensuring quality in fiber extraction etc.

Policies Formulation: For promoting jute micro-enterprises, the government should formulate policies such as institutional, fiscal, poverty reduction, environmental policy, industrial policy, Banking policies, export policies, tax policy (Imposing carbon tax and tariffs) and other related policies by focusing jute micro producers. Because all policies are interconnected and interrelated. It will make them entrepreneurial eco-system which directly and indirectly helps jute micro entrepreneurs. Bangladesh is an agricultural and rural based country. So, it should be given priority in rural resource based on jute micro-enterprises.

Develop an Independent Organization: For Developing Jute Authority Board or "Jute Industry development Board" by making nexus among jute farmer, micro, small and medium entrepreneurs, jute mills of private and public, governmental organizations and other association. Moreover, jute micro-enterprises issues have to consider separately and as priority basis. Otherwise, their voice will be always ignored.

Developed Linkage between University and Jute Sector: The ministry of Textile and Jute should develop an incubator cell with university, public, and private and donor agencies body to develop business idea or entrepreneurial model to adopt climate change and poverty alleviation Strategies focusing on jute micro, small and medium enterprises (MSMEs).

Green Diplomacy: The government should start "green diplomacy" with other countries focusing on eco-friendly jute products and making linkage for market development through diplomatic channel. Bangladesh is suffering a lot due to climate changes effects. Thus, government can start carbon emission trading with developed countries.

Third Party certification and Eco-labeling: Develop certification body that builds customer confidence. It can be included product standard, product quality and fair-trade practices. Eco-labeling is important; government should be taken all necessary institutional supports. For standardization, it should be followed ISO 14020 and ISO 14024 principles and procedures. Entrepreneurs also should be practiced eco-labeling for jute diversified products.

Focus on Rural Women: Selecting the area where people (Particularly rural women) are making rope, sikka, handicrafts by using jute or other raw materials. The government organisation listing them, identifying their problem and demand, and taking strategies according to their need.

Agri-business policy: Formulating and implementing the effective agricultural business policy and given priority on jute sectors including jute grower's interest, jute millers, and MSMEs interest for building up disciplined in agricultural sector which could be ensured vibrant and sustainable jute sector. Immediately implement this sector as an agro-industry. It will assist entrepreneurs for getting incentives for export volume and raw materials at convenient rate

Information Bank: Documentation of related facts and records about Jute. It will assist to stakeholders such as researchers, policymakers and entrepreneurs for getting reliable information on jute sector.

Economic Collaboration with Strategic Partners: Government and authority should take initiatives to make collaboration with strategic partner's country. Some countries and businessmen are very interested to invest in jute sector like China and European countries (EU). Moreover, China already did three collaborations in jute sector. The concern authority should response for effective output. So, the government should try to make sustainable Foreign Direct Investment (FDI) policies particularly for jute sector. Make more effective collaboration with interested Countries for promoting jute micro-enterprises and implement these agenda to produce natural fiber based eco-products.

Develop Awareness and Culture on Green issues: Issues of green and environment pollution should be included as a chapter in business and general education for better understanding. So that the next generation will get knowledge and awareness which will help to became green executives, green entrepreneurs and customers. Gradually, it will help to make a green cultural society rather plastic polluted society.

Proper Human Resource Management (HRM) Practices: The Government should recruit and select knowledgeable people on jute and jute issue for organization such as ministry of textile and Jute, Department of Jute, Jute Diversification Promotion Centre, Bangladesh Jute Research Institute. Government organisation should also focuses in recruitment and selection by following Human Resource Management rule of thumb "Right man at the right place at right time".

Entrepreneurship in Rural Area: The government should use different organisation such PKSF, BRDB, BSCIC, JDPC and SME Foundation etc. to expand jute micro entrepreneurship in the rural areas through free training and awareness development, providing supporting inputs such as appropriate loan, equipments. Government can also use the local government's network to develop community-based jute entrepreneurship programs. It might be "one village one micro industry" program at rural area.

Finally, Bangladesh is limited geographical area with densely populated country. At present, the using of plastic and synthetic products should be controlled for saving the natural environment such as limited cultivable land, rivers, canals, ponds and sea; jute sectors including jute farmers, jute mills workers, artisans and entrepreneurs. We can conclude that jute based micro entrepreneurship development is the sustainable solution for the natural golden fiber of jute sector. We would say "golden fiber has golden future days"

Limitation and Future Research: A future research can be conduct for more depth understanding of obstacle facing eco-friendly jute micro-enterprises in Bangladesh with including different jute micro zones of Bangladesh. Moreover, this research is not a causal or correlation study to find the impact of these obstacles. A research can be conduct in a future for this particular aspect as well to find out the more specifically obstacles impact on the performance of eco-friendly jute micro enterprises development in Bangladesh.

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Appendix

Features Of Entrepreneurs and Enterprises	Rang Observed	Mean	SD	Mode
Age	25-55	37.33	6.013	38
Gender(Male-0,Female-1)	-	-	-	0
Education Level (Year of Schooling)	0-18	11.89	4.018	12
Training Received (Yes-1, No-0)	-	-	-	1
Years of Enterprises (years)	2-18	8.52	4.565	6
Hours spent in Business (in hours per day)	4-15	10.11	2.263	10
Motivation (Self-1, family-2, Jdpc-3, others-4)	-	-	-	1
Initial Capital (000'BDT)	2-800	114.32	154.28	50
Ownership (Sole proprietorship-1, partnership-2, cooperatives-3)				1
Factory location (Industrial Area-1, Residential Areas-2,Rural Areas-3)	-	-	-	2
Location satisfaction (yes-1, no-0)	-	-	-	1
Workers	4-25	11.87	5.508	12
Access to foreign customers (yes-1, no-0)	-	-	-	0
Category of products	4-21	8.84	2.358	10

Table 2: Demographic Statistics of Jute Micro Entrepreneurs and Enterprises

Source: Field Survey

Sources	Respondents (frequency)	Percentage %
Personal Savings	144	96.0
NGOs (Micro Credit)	11	7.3
Bank Loan	21	14.0
Others	40	26.7

Table 3: Sources of Startup Funding for Jute Microenterprises

Source: Field Survey

Sources	Respondents (frequency)	Percentage %
Jute Diversification Promotion Centre	115	76.7
Government Mills	10	6.7
Private mills	55	36.7
Others	65	43.3

Table 4: Sources of Raw Materials for Jute Microenterprises

Source: Field Survey

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.727
Bartlett's Test of Sphericity	Approx. Chi-Square	1525.792
	df	120
	Sig.	.000

Table 5:KMO and Bartlett's Test

Component	Initial Eigen Values			Rotation Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	4.185	26.158	26.158	2.990	18.688	18.688
2	2.448	15.299	41.458	2.466	15.410	34.098
3	1.737	10.854	52.312	1.994	12.460	46.558
4	1.061	6.629	58.941	1.981	12.383	58.941
5	.996	6.226	65.167			
6	.891	5.567	70.734			
7	.838	5.238	75.972			
8	.767	4.796	80.768			
9	.723	4.520	85.288			
10	.651	4.071	89.360			
11	.559	3.497	92.856			
12	.544	3.399	96.256			
13	.478	2.989	99.244			
14	.059	.370	99.615			
15	.052	.322	99.937			
16	.010	.063	100.00			

Table 6 : Total Variance Explained
Extraction Method: Principle Component Analysis (PCA)

Component	1	2	3	4
Skilled designer/workers	.977			
Skilled labor cost	.974			
Training facilities	.965			
Loan facilities from the bank/NGOs		.701		
Availability of capital		.633		
Availability of Raw Materials		.582		
Quality fabrics		.565		
Price of raw materials		.559		
Procedure of Loan approval		.468		
Price and utility shortage			.974	
Supporting facilities (dying/laminating)			.966	
Contact with foreign customers				.673
Incentives for Jute diversified products				.599
Market Information				.500
Modern tools/equipments				.498
Research and development facilities				.422
Cronbach's alpha	.987	.713	.965	.665

Table 7: Rotated Component Matrix
Note: Factor Loading Less Than .40 Is Not Shown in the Above Table