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As of 30 September 2001, the IJO had a total of 25 members: 3 exporting members (Bangladesh, India and Nepal) and 22 importing members (Austria, Belgium, China, Denmark, Egypt, Finland, France, Germany, Greece, Indonesia, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the European Union in its own right.

Traditional Products

Traditionally, jute has been used to manufacture various forms of packaging material for which there was worldwide demand. Hessian cloth, sacking and carpet-backing cloth, the major products manufactured with jute, catered to packaging needs all over the world. However, with the advent of synthetic substitutes such as polypropylene (PP), polyethylene and HDPE (High Density polypropylene) and with the introduction of bulk packaging, jute began to lose its grip on the market, and demand for jute goods begun to decline rapidly. Some of the manufacturing units that existed in parts of Europe also found it uneconomical to continue manufacturing jute goods with imported raw material, especially with the high labour costs in their countries. The major areas of application were gradually taken over by the synthetic substitutes partly on account of their cheaper price and partly because of their easy availability within the countries that had been importing jute goods.

Jute thus started losing its status as the "golden fibre" and the profitability of the industry was severely affected. This also had an adverse impact on the farmers due to low prices for their produce. As the farmers are poor, their misery is compounded by the middlemen, who exploit them by offering lower price for their crops on the one hand, and not grading them appropriately on the other. Thus, notwithstanding the fact, that the world is becoming increasingly environmentally conscious and that jute is a natural annual fibre which is biodegradable, eco-friendly and recyclable, the declining demand for jute and jute goods is continuing unabated.

Technologies

Outmoded Technologies

The Jute industry is nearly 150-years-old, and it continues to use more or less the same machinery that was developed and used when the industry was first established. Little renovation and upgrading of the technology has taken place in real terms. This is essentially due to the fact that declining demand for jute goods also forced manufacturers to lower their prices so that there was little demand from the jute industry for innovative technological inputs to upgrade the processes and the products. In economic terms, to maintain profitability the high cost of investment in capital goods could not be supported by the low value of the products. As a result, the machinery manufacturers could not invest in innovating and upgrading the technology for the jute industry; neither could the industry assure them of a sustained market for high-tech machinery.

Moreover, there were not many machinery manufacturers for the jute industry in the world. Originally, James Mackie, based in Belfast, was the manufacturer and supplier of jute machinery worldwide. They also had a unit in Calcutta (India), which was a major centre for the jute industry prior to India's independence from British rule. The eastern part of India (now Bangladesh) was the major jute producer. The effective result was a stagnant industry with old technology and run-down machinery, which continued to produce the traditional hessian cloth, sacking and carpet-backing cloth. Since 1970, the market for carpet-backing cloth has declined faster than that for hessian and sacking and now involves very small quantities.

New Technologies

While the traditional products, manufactured using outdated technologies, have continued to be replaced by more competitive synthetic substitutes, research and development efforts have sought to create new products, establish new processes and develop new technologies to produce innovative jute goods. The strategic objective is to find new outlets for the new products alongside the traditional ones. Sustained efforts in this direction have resulted in the development of a number of new technologies ready for commercial exploitation by the jute industry. The main new technologies are described below:

Fine yarn technology

Jute can be spun into a relatively finer yarn of 10 - 15 Nm (metric) counts, which can then be converted into home textile materials. Technology developed for other bast fibres used in Europe could be used by the jute industry to replace the traditional spinning machine; while using the existing back-up facilities, the new spinning technology can produce fine yarn with higher value-added and suitable for new applications. The resulting home textiles can be used to make such items as curtains, bedcovers, bedsheets, pillow covers, sofa covers, mattress covers, wallmats, prayer mats, cushion covers and towels. Thus a large demand could be created to the benefit of the jute industry. This technology, developed by M/s. N. Schlumberger & Cie of France, has been tested in the jute industry and found to be suitable for finer quality yarn made from both 100 per cent jute and from jute blended with other fibres.

Mini jute spinning

Technology for spinning jute and cotton blended yarn on a mini-scale has also been developed, which can be exploited for producing coarser quality yarn to cater to the handloom and power-loom sectors in the rural areas. The resulting cheaper fabric would be suitable for mass consumption. This will help develop economic activities in the rural areas, particularly amongst the women, and therefore greatly assist in alleviating poverty.

"Dref" technology

Technologies are also available for producing a coarser variety of yarn with jute and other waste fibre. This could be used for the production of a variety of goods such as cheaper blankets, mopping materials and dusting cloths for the export market. Messrs Fehrer AG of Austria has developed this "Dref" technology, and more recently, "Dref-2" technology has been developed, which can blend jute with other fibres and fibre waste to produce value-added products.

Dyeing and Finishing

After jute is converted into textile material, either purely as jute or blended with other fibres, it will require dyeing and finishing to make the products attractive to the buyers. It is therefore, necessary to set up integrated facilities for bleaching, dyeing and finishing of the jute-based products. The technology is available in almost all the countries and not much effort will be needed for the establishment of such production facilities.

Composite Technology

Jute can be used to produce composite products, both thermosetting and thermoplastic, with a wide range of usage. Application of a thermosetting resin on a hessian cloth and hot pressing this under a dice can produce tailor-made products in place of wood for various end uses. Such products are not only cost competitive, but are of better quality than the best quality of wood. Jute, being an annual crop, can help preserve the forests if used this way as a wood substitute.

Similarly, jute can be blended with polyolifines and moulded into various products with the application of injection/pressure moulding technology. The physical properties of the products improve significantly, but at a significantly lower cost, and hence, price.

Non-woven technology

Needle punching and stitch bonding technologies have been applied to produce non-woven mats made of jute for various end uses. This kind of technology is widely used for a number of other fibres and can be similarly used for jute to produce many value-added products that are recyclable, environmentally friendly and cost effective. The non-woven product range includes household goods such as secondary carpet backing and rugs tiles; filtration materials such as dust filter panels and filter pads for air inlets on machinery; building construction materials such as noise and heat insulators; and footwear and luggage components such as toe and heel stiffeners, insoles and bags. There is also considerable potential for application of non-woven products in the automotive industry.

Paper pulp from jute

The cellulose contained in jute is suitable for producing paper pulp from the entire jute plant or only jute fibre or sticks, using chemical and mechanical pulping technology. This could replace the traditional bamboo and eucalyptus trees. Establishment of such manufacturing facilities would not only help consume large volumes of jute but could also help protect the environment by preserving forests and releasing large areas of land, otherwise used for plantations by the pulp manufacturing industry, for other crops. The application of biotechnology for producing paper pulp from jute has started to show promising results in terms of lower costs of production due to a reduction in power consumption in mechanical pulping and lower consumption of chemicals in bleaching and chemical pulping. This is an area that needs greater attention as it would help the consumption of large volumes of jute and since most of the jute producing countries are net importers of paper or pulp, it would save them substantial foreign exchange.

New end uses

With the application of the technologies and processes described above, jute can produce a host of products, such as home textiles, composites, non-woven mats and pulp for paper, which will help to create additional demand and new outlets for jute. Jute could be used to make various products from home textiles, such as curtain material, sofa covers, cushion covers, table cloths, bedcovers, and even shawls. Thermosetting composites can substitute wood in almost all applications such as doors and door frames, windows and window frames, floor covers for transport vehicles, chairs, tables, corrugated sheets to replace asbestos or CI (Corrugated Iron) sheets, kitchen cabinets and for other industrial construction purposes. Similarly, the thermoplastic composites can be used for automobiles, crates for fruit and bottles, toys, pellets and a host of other items. The non-woven mats can be used for automobiles as door liners, for moulding into components by replacing glass fibre mats and as floor covering materials. Pulp made of whole jute plant or of jute fibre can be used in paper making for newsprint, packaging paper and for writing and printing. Hand-made paper is becoming increasingly popular and is helping employment generation, particularly among women.

Apart from the above products and areas, there are also other new and diversified end uses of jute, discussed below:

Jute geotextiles: Jute geotextiles are used to protect slopes with high risk of soil erosion, and to prevent nutrients and seeds from being washed away by rainfall and runoff, wind and gravity. Jute geotextiles have a wide mesh structure to provide erosion control, with or without the use of an underlying loose mulch layer, while at the same time, enhancing vegetation growth to facilitate long-term erosion control and slope protection.

Agro-mulching is the other field of application where jute geotextiles have considerable potential. As they are biodegradable with a life-span of one season, which corresponds with a crop season, they are suitable for application in agro-plant mulching.

Geotextiles can be used to enhance the soil's bearing capacity in road building, for example. The geotextile is usually used to separate the various layers, which comprise the structure of the road. Buried geotextiles can also provide local reinforcement and prevent lateral sliding of the aggregate. In this way, geotextiles may allow a reduction in the thickness of the pavement which represents savings in the costs of building roads.

Carboxy Methyl Cellulose (CMC): Jute also contains significant cellulose (58 - 64 percent), which can be extracted and converted into Carboxyl Methyl Cellulose (CMC), which is required in large quantities in pharmaceuticals, food products, toothpaste and a host of other products. The cost of manufacturing such CMC is almost one fourth that of imported CMC, and the grade is fairly comparable. The technology is now available and entrepreneurs are ready to set up commercial plants for manufacturing such products.

Role of IJO in Transfer of Technologies and in Exploring New End-uses

It is estimated that of the total production of 3 - 3.5 million metric tons of jute, about 2 - 2.5 metric tons will continue to be consumed in traditional areas, particularly as sacking and hessian cloth for packaging. The natural fibre of jute bags makes them preferable to synthetic bags for packaging certain commodities, such as food grains, cocoa beans, coffee beans and shelled nuts. As these goods are unable to "breathe" in synthetic bags, they risk spoilage. However, given these supply and demand estimates for jute, there would be an estimated surplus of about one million metric tons of jute which risks creating volatility in the market. This is particularly so during the harvesting season as the farmers, unable to store their harvest for long, are compelled to sell at prices that are sometimes even below the cost of production.

Unfortunately, on account of the poor state of affairs in the jute industry, and since jute is being produced only by marginal farmers in relatively less developed countries, there have been no significant developmental efforts and financial inputs. It was only recently in early 1990s that the United Nations Development Programme assisted a large programme in India with a reasonable amount of funding for the development of a number of new products, processes and technologies to supplement the traditional products with the aim of sustaining the jute industry. With a similar objective, the IJO Secretariat also initiated a few projects for producing non-traditional higher value-added jute products.

In addition, the IJO Secretariat has taken up the challenge of consolidating the results of various research and development efforts for jute with the aim of their transfer from "lab to land" for commercial exploitation. This is expected to create a significant increase in the demand for jute, thereby bringing about a structural balance between supply and demand, and with it, price stabilization. In pursuit of this goal, the IJO Secretariat has also been actively working to improve upon the traditional jute products along with the development of new ones. The focus of IJO's activities in the traditional sector has been on cost reduction, quality improvement, standardization, manpower development and technological upgrading. With regard to new products, its strategy has involved concentrating on a few selective areas of new products, which could generate a large potential demand both at home and abroad. It has therefore been concentrating on those products that not only consume large volumes of jute, but also add substantial value so as to make the jute industry sustainable over time and enable it to compete with synthetic substitutes.

The IJO has thus been playing a catalytic role in developing the concept, preparing project reports, seeking funding and implementing projects through development organizations in member countries. Once the projects are completed, the results are disseminated through workshops and seminars. The IJO, along with funding bodies, such as the Common Fund for Commodities (CFC), and participating institutions, has the right (even if not patented) to pass on the information on technologies, processes and products. The IJO has been making efforts to attract private sector entrepreneurs in new projects through which products, processes and technological know-how are provided to them and they are assisted in locating the source of technology, in arranging collaborative ventures and in procuring bank loans. The IJO has also been assuring private sector entrepreneurs of its complete managerial support for implementation of all commercial projects till the setting up of the machinery and its commissioning are completed. It can also provide support in market research and marketing of the new products both at home and abroad.

The IJO strategy, therefore, was to find ways of utilizing all the jute crop produced by commercializing the R&D efforts for the production of new, non-traditional goods made from jute.

Investment

As mentioned earlier, the focus of the IJO's industry-related projects and activities has been to develop non-traditional jute products, processes and technologies along with improving the traditional sector of the jute industry. However, in order to effectively address the issues of welfare of the jute economy, income-generation at the rural level and poverty alleviation in general, the emphasis has now been directed towards transfer of these positive developments to the field through commercial exploitation of a number of projects on diversified jute products, processes and technologies. In this respect, the IJO Secretariat, in collaboration with the Ministry of Jute (MOJ) and Board of Investment of the Government of Bangladesh, Dhaka Chamber of Commerce and Industry (DCCI), and the Delegation of the European Commission (EC) in Bangladesh, organized a Jute Investors' Forum in 1999. It was attended by 150 entrepreneurs from Bangladesh who considered a total of 11 project proposals for the commercial exploitation of diversified jute products based on new processes, products and technologies developed through various projects of the IJO and other specialized research institutions. Potential entrepreneurs showed considerable interest in implementing these projects. Since then, a Screening Committee has shortlisted 14 projects out of 22 applications, with a total investment value of over US$ 20 million, for which nearly 50 per cent of financing has already been secured. A memorandum of understanding (MOU) was also signed between the Ministry of Jute, Government of Bangladesh and the BASIC Bank to provide a number of support measures for completion of the projects. The success of these commercial ventures could bring about a real breakthrough in the jute industry with respect to establishing new outlets for high-value added and diversified jute-based products, high volume consumption of jute and a transfer of technology in the jute economy.

Conclusion

It will be clear from the above, that, for the jute industry to survive and become sustainable, we need to diversify the range of products to supplement the traditional ones in order to boost the consumption of jute in large quantities. New products have already been developed, processes established, and sources of technologies are also known. It now requires entrepreneurial development for their large scale commercial exploitation through an aggressive marketing strategy to establish the products in markets at home and abroad.

It is important to note here that the farmers who cultivate jute are from the poor and marginal segment of society. Furthermore, as this is an untested area, entrepreneurs are hesitant to risk their investments in it. Moreover, as the jute industry in the major producing countries is on the verge of collapse, financial institutions are not interested in financing jute-related projects. Governments of the jute producing countries are equally unable to undertake large-scale development programmes for the revival of the jute sector due to the fact that some of the major jute producing members are either least development countries (LDCs), or at best, developing countries. Therefore, the international community has a moral responsibility to assist these jute producing countries in their efforts at poverty alleviation through the promotion of jute and the generation of employment in the jute sector. It would be appropriate for international organizations to at least provide the seed money for setting up jute-related commercial ventures and promoting an international market for their products. This would go a long way towards enabling this commodity to survive, and it would help the poor farmers gain remunerative returns on their produce. It would thus go a long way in contributing to poverty alleviation.

The International Jute Organisation (IJO), set to be restructured into the International Jute Study Group (IJSG), should continue to consolidate the outcomes of the development efforts undertaken in the past and take measures to promote entrepreneurial ventures with jute products for the survival of this important commodity. This

Unprecedented Public Response for use of Jute Shopping Bag instead of Poly shopping Bag

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Till the year 1980, the mass population Bangladesh used to use jute bags and other containers made of bamboo and cane, called khaloi, Dhula, Jhuri etc, for their day-to-day shopping. These things were used in market places of cities, ports and villages. At that time, bags and packets made of paper were also used. The buyers used to carry jute bags and other containers made of bamboo and cane from home to the market. But from 1981-82 the commercial production and marketing of ploy shopping bags started with due permission from the Government. The use of poly shopping bags spread throughout the country at a unbelievably rapid speed due to some of its features such as it was light, had attractive colour and it was available at a very low price. The biggest advantage of ploy shopping bags was its availability everywhere at a very low price or no price at all. Though the shopkeeper used to build the price into the products the buyers, could not realize the same. As a result, culture of carrying shopping bags from home was abandoned.

One of the advantages of poly shopping bag was such that a man could buy anytime knowing well that the shopper will provide a bag. Due to the increasing demand of poly shopping bag, more and more number of production units started to be established with or without permission from the Government. These factories mainly were established in the old part of Dhaka city, although most of the factories did not have Government permission.

The environment conscious citizens and members of the civil society were expressing their views of environmental pollution due to unabated use of poly bags, print media and speeches in the seminars and symposiums. But the policy makers of the Government did not take due notices of it. The waste management system of poly shopping bag was not in existence, as a result drains and sewerage system were chocked resulting in stagnation of wastewater creating adverse impact on fertility of land.

Concerned with the environmental pollution resulting from flood of 1987-88, the then Government (1991-96) decided to impose a ban on production and use of poly bags. But the people, due to lack of publicity and absence of any media awareness programme, could not realize adequately the depth of environmental pollution. Moreover, the failure of this program was also due to the absence of political support and lobbying power from the plastic manufactures' association. The flood of 1998 created a civic crisis due to blockage of sewerage system in Dhaka city created by water stagnation. As a result the environment of Dhaka came under sever threat. At that time the Awami Leag Government considered to impose ban on production and marketing of poly shopping bag but could not implement.

In the month of October 2001, immediately after the assumption of power by Four Party Alliance Government, led by BNP, an inter-ministerial meeting was held under the chairman ship of Honorable Minister for Environment and Forest and a decision was taken to impose ban on production and marketing of poly shopping bag, initially in Dhaka city and then gradually in the other parts of the country.

In the light of the decision of the Government of imposing ban on poly shopping bag, BJMC has made proper plan and programme to ensure availability of jute shopping bags, at a lower price, in place of poly shopping bag. BJMC assured in all the inter-ministerial meetings since December 2001, supply of sufficient quantity of jute shopping bags for proper implementation of the historical decision of the Government. In the meantime Government has taken a decision in a Cabinet Meeting on a proposal of the Ministry of Environment and Forest to impose ban on production and marketing of poly shopping bag in Dhaka Metropolitan area from 1st January 2002.

In the meanwhile a wide range of publicity has started through print-media, electronic media, seminars and symposiums through out the country for making the people aware about the hazards of environment pollution due to use of poly bag and to remind people about their responsibility. The people are now encouraged due to appropriate guidance and publicity of the Government for imposing ban on poly shopping bag. BNP lead four party alliance got support from opposition parties also. It may be mentioned here that the Mayor of Dhaka city already supported the initiatives of the Government and instructed all the ward commissioners to take necessary actions at their end.

BJMC has given region-wise responsibilities to the mills surrounding Dhaka city to ensure production and supply of jute bags so that no deficit situation of bag is created to the shops and markets. These mills are selling jute shopping bags among the people and shopkeepers from 7 am to 7 pm every day using trucks in the 40/50 market places. Despite these, BJMC has instructed its regional mills of Chittagong and Khulna to help the mills surrounding Dhaka city in production of jute bags for ensuring smooth supply. In effect the daily production of jute bag has increased from 1,75,000 pcs to 3,50,000 pcs. As of now, BJMC sold 10,50,000 pcs of bags in retail sale and 5,50,000 bags in wholesale. BJMC is going on a massive production of bags to create a buffer stock of 30,00,000 pcs to comply with the decision of the Government with respect to banning the poly bags throughout the country with effect from 01 March 2002.

At this stage BJMC findings regarding survey on jute bag are as under:

a) In the past manufacturers of poly bag used their dealers, agencies and market based whole sellers to infuse poly bags to the shopkeepers and departmental stores who used to give the bags to the buyers with their purchased goods. This way the use and marketing of poly bags started. We presumed that with the ban on poly bag, the people will go to the market without any bag, the way they did before, and will get jute shopping bag at a very lower price. But in reality it is seen that people are queuing before the truck spontaneously to buy bags at a fixed price. It means buyers are spending money out of their pocket to buy bags. It reflects the wholehearted acceptance of the Government decision of banning poly bag.

b) Though BJMC is selling the bags at a wholesale or retail rate, yet the middlemen are charging high price from the buyers. Say for example the price of a bag fixed at TK. 4.00 by BJMC, middlemen sell same bag in the market at the TK.10/12 making a high profit.

c) The sale drive by truck is gradually reducing as the primary demand for jute bags were met successfully.

d) It is seen that when the Government imposed ban on poly bag at a thickness of less than 20 micron, some dishonest manufacturers are marketing somewhat more thick poly bag than before but less than the thickness of 20 micron. This illegal activity will have to be stopped. The forthcoming session of the parliament should ban the production, marketing and use of all kinds of poly bags irrespective to their thickness.

e) BJMC is producing and marketing five types of bag from five types of clothes, but the general buyers and shopkeepers of rice, pulse and vegetables are preferring bags of 20"*18" and 20" * 16" made of 40-10/40, 11 * 12 type Hessian clothe. On the other hand groceries shopkeeper and departmental stores prefer all five sizes of bags made of 150-5.5 /36, 9*9.

f) In the meantime the use of poly bags by the Dhaka city dwellers have reduced significantly and they are using jute bags again and again.

The way people are supporting the Government decision of banning the production and marketing of poly bags, no previous decisions were supported by people in such a way. BJMC is cooperating wholeheartedly with the Government in implementing its decision, though the private mills also could play a vital role in this issue. Due to the decision of banning the poly bag, the vanishing industries of jute, paper, bamboo, and cane will try to recover their heritage and countrywide huge activities will be commenced in this sector. The farmers will engage themselves in producing quality jutes. Any individual, NGO, unemployed youth community, village women and even the ex-labourers of poly bag industries can buy Hessian and other clothes from jute mills at a fixed price and can engage themselves in producing and marketing different types of jute bags for mass consumption. As a result, they can play the vital role in eradicating evil influence of poly bags and at the same time they can become self-reliant.

It should be mentioned here that the discussants in the seminars and symposiums hoped that the losing jute industries would be converted into profitable ones if the jute bags were widely used. But in reality the reflection of such expectation may be very low because BJMC is selling the bags and clothes at a price, which is half of its cost of production. But it can definitely be said that thousands of employment opportunities will be created with the activities of jute bags manufacturing and other processes.

The Government has only banned the shopping bags, which were being used in the bazaars, markets, shops and stores in the country. But Government did not impose any sort of ban on thousands of other types of the poly bags which are being used to pack rice, ata, flower, suzie, bread, biscuit, chips, noodles, chanacure, salt, sugar, dust spices, washing powder, soap etc. For this reason, the Government may seek help from electronic and print media for better publicity and mass public awareness about proper recycling and waste management of such plastic packing materials other than polythene.

In this way, the good result of the Government decision will bring mass public welfare. The industry, which is a big threat to the environment and people, should be banned with an iron hand, so that we can make our earth livable for the generations to come.

Cooperation of the European Union in bringing back the lustre of Jute the Golden Fibre of Bangladesh

M. A.Halim

The Past and Present of Bangladesh Jute

The foundation of the prosperity and industrialization in the fifties and sixties of the then Pakistan was the export earnings of jute and jute products. The total export earning of South Korea in 1964 was less than the export earning of jute and jute products from the then East Pakistan. Even in 1980-81, the export earning of this sector was 68.5% of the total export earning of Bangladesh which has come down to less than 10% now. When we hear about Jute, the mental picture which comes to our mind is that of deeply disappointed jute farmers who do not receive fair price, jute industries of the three conventional jute products gasping under a debt burden of about Taka 5000 Crores which is increasing continually and of tens of thousands of angry and frustrated jute mill workers and employees. Whenever we hear about jute industry, the emerging mental image is that of a sunset industry whose good days have passed long-long time ago. However, it is also true that Bangladesh still is the World's largest exporter of jute and jute products, jute industry still is the second biggest employer of industrial labour and 10% the industrial labour of the country is still employed in the jute industry, one fourth of the country's cash income from agricultural produce is still derived from jute. Jute and jute products still touches the lives of millions of Bangladeshis.

European Union's Cooperation in the jute sector of Bangladesh:

To compensate for the loss of export earnings in the jute sector during the four years from 1986 to 1989, under its COMPEX Scheme, the European Commission transferred to the Government of Bangladesh a grant of ECU 13.23 million. The proceeds of the transfers amounted to over taka 50 Crores which, together with accrued interest totalled over taka 75 Crores. With this amount various projects and actions were undertaken for reversal of the decline and for development of the jute sector in Bangladesh. These provided the essential support for rejuvenation of the jute sector. It can now be said with confidence, in the near future, the jute industry will emerge in the world as Sunrise Industry.

Projects implemented and under implementation with COMPEX FUNDING

The Pilot Project using "Falguni Tossa" seed based technology developed by Bangladesh Jute Research Institute (BJRI) was implemented with the Objective of providing more income to jute farmers by increasing yield and improving quality and internal marketing of jute. Independent evaluation confirmed improvement of quality and 42% increase in yield in the fields of the contracted jute farmers who participated in this project. Being encouraged by this result, the Ministry of Jute has undertaken projects under ADP with government's own resources covering wider area and a larger number of jute farmers.

Jute Manufacturing Study(JUMS)

This study was conducted in 1991-92 covering the jute mills of Bangladesh producing the three conventional jute products. Based on the probable world demand of the three conventional jute products i.e. Hessian, Sacking and Carpet Backing Cloth (CBC) in 2000-2005, detailed sector wise and mill wise analysis and study was made. Recommendations were given for rationalization and restructuring of the manufacturing sector and in respect of each mill. Mainly based on this study, the World Bank provided US Dollar 250 million on easy terms to Government of Bangladesh as Jute Sector Adjustment Credit.

Jute Diversification Study(JUDS)

During the last 7/8 years wide ranging Research and Technological Development efforts on diversified products and uses of Jute has been carried out and are still being carried out in China, India, Bangladesh, UK, France and the Netherlands.

To explore the feasibility and probable market demand in North America, Europe, Australia, Japan and other Asian Countries, of the new and improved jute diversified products, processes and uses emerging from these RTD activities, this study was conducted and the JUDS Report was widely circulated among all the stakeholders.

Production of Paper Pulp from Jute

The pulp mill at Chattak (Sunamganj) in greater Sylhet area, which was set-up in mid-eighties, already had a juteline for production of pulp from jute. However, yield of only upto 35% could be achieved under the process which was being used for jute pulping. As a consequence this jute pulp was not cost effective and economically viable. A new high yield process was evolved in the laboratory which showed possible yield of 65% to 70%. An industrial run of this high yield process was made in France with 30 tonnes jute which was funded by EC Compex funds which showed equal high yield of 65%. On the basis of this, a Pilot plant has been set-up in Sylhet Pulp and Paper Mill for production of Paper Pulp from low grade jute and jute cuttings with EC COMPEX fund grant contribution of over Taka 28 Crores. It has already become possible to achieve yield of 55-57% in this Pilot Plant. Due to certain technical problems, the design capacity of 30 tonnes pulp per day of this pilot plant has not yet been achieved. Efforts are ongoing to achieve the design capacity. The price of jute as a raw material for paper pulp is still higher compared with the other raw materials such as wood, bamboo, grass etc. To further improve the process of pulping from jute, improving cost effectiveness and viability by improving yield and reducing costs, a new project "Biotechnological application of Enzymes for Production of Paper Pulp from green Jute/Kenaf" is being implemented with funding from the Common Fund for Commodities (CFC), from Government of France and from the EC Compex funds. If this project becomes successful, the chemical and energy costs of jute pulping is expected to be reduced by upto 30%.

Every year trees weighing more than 400 Crore tonnes are being cut for various purposes which includes an important portion for pulping. We can only imagine the far-reaching and wide-ranging change which will occur if, by increasing yield and reducing costs, jute could be used cost effectively as raw material for pulping replacing wood, bamboo etc.

Geojute Project in the ABC Plant within Adamjee Jute Mills

This closed plant was renovated and recommissioned with EC Compex funding and is producing and marketing profitably geojute products. This product has huge market potential within Bangladesh and abroad.

Contribution of the European Union in the Development and dissemination of new and improved technologies and processes for production of diversified jute products and their marketing

During the past 7/8 years many new and improved technologies and processes have been developed resulting from Research and Technological Development (RTD) efforts in various countries of the world involving diversified products and uses with jute as the basic raw material.

A Committee consisting of Representatives from the EC Delegation in Dhaka, the erstwhile International Jute Organization, BJRI, BJMC and the Ministry of Jute made a preliminary selection of 11 technologies for successful commercialization and setting-up of industries for producing intermediate and final diversified jute products under these technologies.

Thereafter consultants were engaged with EC COMPEX funding for preparing Techno-Economic Feasibility Reports after conducting market surveys locally to ascertain if market potential exits within Bangladesh of the diversified jute products to be produced using the selected technologies and if the industries to be set-up for such production would be profitable. A "Jute investors Forum" was organized at the erstwhile IJO on 15-17 April, 1999 in which these Feasibility Reports were presented. Wide positive response was received from prospective investors. Many prospective investors submitted proposals for setting-up industries under the selected technologies. These were screened and, within these, 14 Proposals were selected. The capital investment requirement of these industries totalled Taka 100 crores. Then financing of these industries was discussed in detail with various Banks and Financing Institutions. Following successful negotiation, a Memorandum of Understanding (MoU) was signed between the Ministry of Jute and the Bank of Small Industries and Commerce (BASIC). Under this MoU, BASIC will act a Fund Manager of EC Compex Fund contribution of Taka 20 Crores as loan and Taka 3 Crores as grant for part financing of the Capital Cost of the above selected industries.

The astounding technological advancements which have occurred recently was successfully demonstrated on 7-9 October, 2000 when the then Hon. Prime Minister opened an exhibition of diversified jute products first at Hotel Sonargaon and then at the erstwhile International Jute Organization.

The following groups of jute diversified products produced under the new technologies were exhibited: (A) Thermoplastics - producing all currently produced plastic products using upto 40% jute. (B) Thermosetting - High quality substitute of wood and C.I.sheet. (C) Non-Wovens - Used in upto 38 places in an Automobile, shoe sole, floor covering etc. (D) Geo-textiles (E) Textiles and Hometextiles (F) Handicrafts (G) Chemical Products (H) Paper Pulp

Recently it has been decided to set-up with EC Compex funding a professionally oriented. Jute Diversification Promotion Centre (JDPC) under the Ministry of Jute to promote commercialization of currently available and to be developed future technologies for diversified jute products. It is hoped that the JDPC will become operational soon.

Results of recent Research and Development have proven beyond any doubt that, in addition to environmental plus points, jute has definite cost-advantage as raw material of various industrial products compared with many other raw materials. With induction of more and more new technological improvements, many new high value added products could be produced with jute which will have world wide market potential and demand. All that is required now is enterprise and some Government support in the pilot phase. It can now be stated with full confidence that a wide horizon and a bright future awaits Jute.