

Potential Uses of Local Material “Jute” in Interiors

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Abstract

In recent times, for the influence of modern architecture different materials are used in interiors. Among them, environmentally friendly materials like jute are highly appreciated worldwide. In our country, jute is a natural fibre popularly known as the golden fibre which has a golden and silky shine in it. It is a biodegradable material which has the potential to show the world its versatile applications. This research will broadly discuss the step-by-step processing of jute till the final fibres are achieved and will try to show how the different types of jute or jute made materials can be used in interiors and if there is any new scope and possibility of applying jute in interior in near future. The findings in this research are done after conducting different literature review and observation survey. The goal of this paper is to inform everyone how jute can be a potential material in interior for future use.

Keywords: Jute products; potential use in interior; environmentally friendly material; golden fiber; finished interior materials.

1 Introduction

Jute Industry played an important role in the economic development of Bangladesh. At the beginning of the twentieth century, we could boast of only one manufacturing industry - Jute. “It employed about a half of the total industrial workforce of Bengal. In 1900-1, the export value of jute manufactures accounted for nearly a third of the entire export trade.” (Aktar et al., 2014; Sadekin et al., 2015).

The weather condition of Bangladesh is very suitable for growing jute. It is one of the cheapest and the strongest of all natural fibers and considered as the fiber of the future. Jute comes after cotton in world's production of textile fibers. Different kinds of jute products are made in Bangladesh and these products are renewable, biodegradable and environmentally friendly. Presently, with the increased awareness of the harm done by plastic to the environment, its high time to push the diverse potential uses of jute in industrial and domestic use.

Jute is one of the most adaptable natural fibres, and the idea of using it as a material for interiors and as a source of foreign currency for Bangladesh has been considered. “Jute has many advantages as a home textile, either replacing cotton or blending with it. It is a strong, durable, color and light-fast fiber. Its UV protection, sound and heat insulation, low thermal conduction and anti-static properties make it a wise choice in home decor. In addition, fabrics made of jute fibers are carbon-dioxide neutral and naturally decomposable. These properties can also be used in high performance technical textiles. It has high tensile strength, low extensibility, and ensures better breathability.” (Embassy of Bangladesh: online). Since people are currently very cautious about environmental sustainability, and as jute is an environmentally friendly product, we can conduct researches in this area. “While jute is being replaced by synthetic materials in various sectors, in some cases we can take advantage of its biodegradable nature. Jute has a long history of use in the sacks, carpets, wrapping fabrics (cotton bale), and construction fabric manufacturing industry.” (Embassy of Bangladesh: online). Jute goods are widely and commonly used for designing products and for aesthetic functional purposes. “Especially for wall decoration, different items of jute are: embroidered paintings, framed products, framed photographs, tapestries, framed mirrors, wall decals, wall- hangings, hacking pockets storage, key holders, etc. Indoor containers for planting young trees, which can be planted directly with the container without disturbing the roots. Jute fibers are also woven into curtains, chair coverings, hessian cloth, jute cushion covers, jute fabrics, jute blinds. Diversified jute products are becoming more and more valuable to the consumer today. Among these are floor coverings, home textiles, high performance technical textiles, composites, and more. Jute floor coverings consist of jute mats and durries, woven, tufted, and piled carpets. Jute Mats and mattings with 5/6 meters width and of continuous length are easily being woven, in solid and fancy shades, and in different weaves like, Boucle, Panama, Herringbone, etc. Jute Mats & Rugs are made both through Power loom & Handloom. The traditional Shatranj mat is becoming very popular in-home decor. Jute nonwovens and composites can be used for underlay, linoleum substrate or

backing for linoleum and more. Basic fibers made from jute are used in a variety of flooring applications. Due to its roughness and durability, jute is popular in general homeware applications. For instance, this fabric is popular for upholstery (especially for indoor furniture), and it is also used to make curtains and canvas.” (Embassy of Bangladesh: online).

After analyzing these functionalities of jute, we can understand that jute can be replaced as an interior material very easily. For example, we can use jute mat blinds instead of plastic blinds, thus the more the possibilities of its uses increase in interiors the more will be our advancement towards an ecofriendly living environment.

2 Literature Review

Jute is called the golden fiber of Bangladesh. Nowadays, it is also used as an interior material.

2.1 Golden Fibre

“The industrial term for jute fiber is raw jute. The fibers are off-white to brown and 1–4 meters (3–13 feet) long. Jute is also called the "golden fiber" for its color and high cash value. The bulk of the jute trade is centered in South Asia, with India and Bangladesh as the primary producers. Rough fiber made from the stems of a tropical Old-World plant, used for making twine and rope or woven into sacking or matting.” (Wikipedia The Free Encyclopedia, 2003).

2.2 Interior Material

As suggested by the name, interior material is a finish applied or used to the interior of a home office or other such buildings to enhance the interior looks which can be achieved by incorporating materials like jute.

3. PROCESSING OF JUTE (FROM PLANT TO JUTE)

“Jute is produced from plants in the genus corchorus, which was once classified with the family tiliaceae, more recently with malvaceae, and has now been reclassified as belonging to the family sparrmanniaceae. “(brute jute, 2019). Jute plant is grown in agricultural fields which has to pass through some specific processes within a duration to finally obtain the fibre. In this paper, the jute making process will be discussed briefly.

3.1 PLANT TO JUTE (PROCESS)

“Jute plants are about 15-20 cm tall. Four months after planting, harvesting as shown in step: 1 begins. The stalks are cut off close to the ground. The stalks are tied into bundles and soaked in water for about 20 days. The fibres are then stripped from the stalks in long strands and washed in clear, running water. Then they are hung up or spread on thatched roofs to dry. After 2–3 days of drying, the fibres are tied into bundles. The ideal climate for growing jute is warm and wet condition, which is offered by the monsoon climate during the fall season, immediately followed by summer. Jute requires 2–3 inches of rainfall weekly with extra needed during the sowing period. Retting is the process of extracting fibre from the long-lasting life stem or bast of the plants. “(brute jute, 2019).



Step:1 Harvesting the Jute material



Step :2 Jute plant being bundled for Retting



Step :3 Retting Stage- Jute immersed in water

“After harvesting, the jute stalks are tied into bundles (Step: 2) and submerged in soft running water. The stalk stays are submerged in water for 20 days. In most cases, the fiber extraction process of bast fibers in water retting (Step: 3) is done by the farmers while standing under water. When the jute stalk is well retted, the stalk is grabbed in bundles and hit with a long wooden hammer to make the fiber loose from the jute core. After loosening the fiber, the fiber is washed with water to complete the cleaning process (Step: 4) and squeezed for dehydration (Step: 5). The extracted fibers is further washed with fresh water and allowed to dry on bamboo poles. Finally, they are tied into small bundles to be sold to manufacturers. “(Brute Jute, 2019)



Step: 4 Cleaning the Jute material



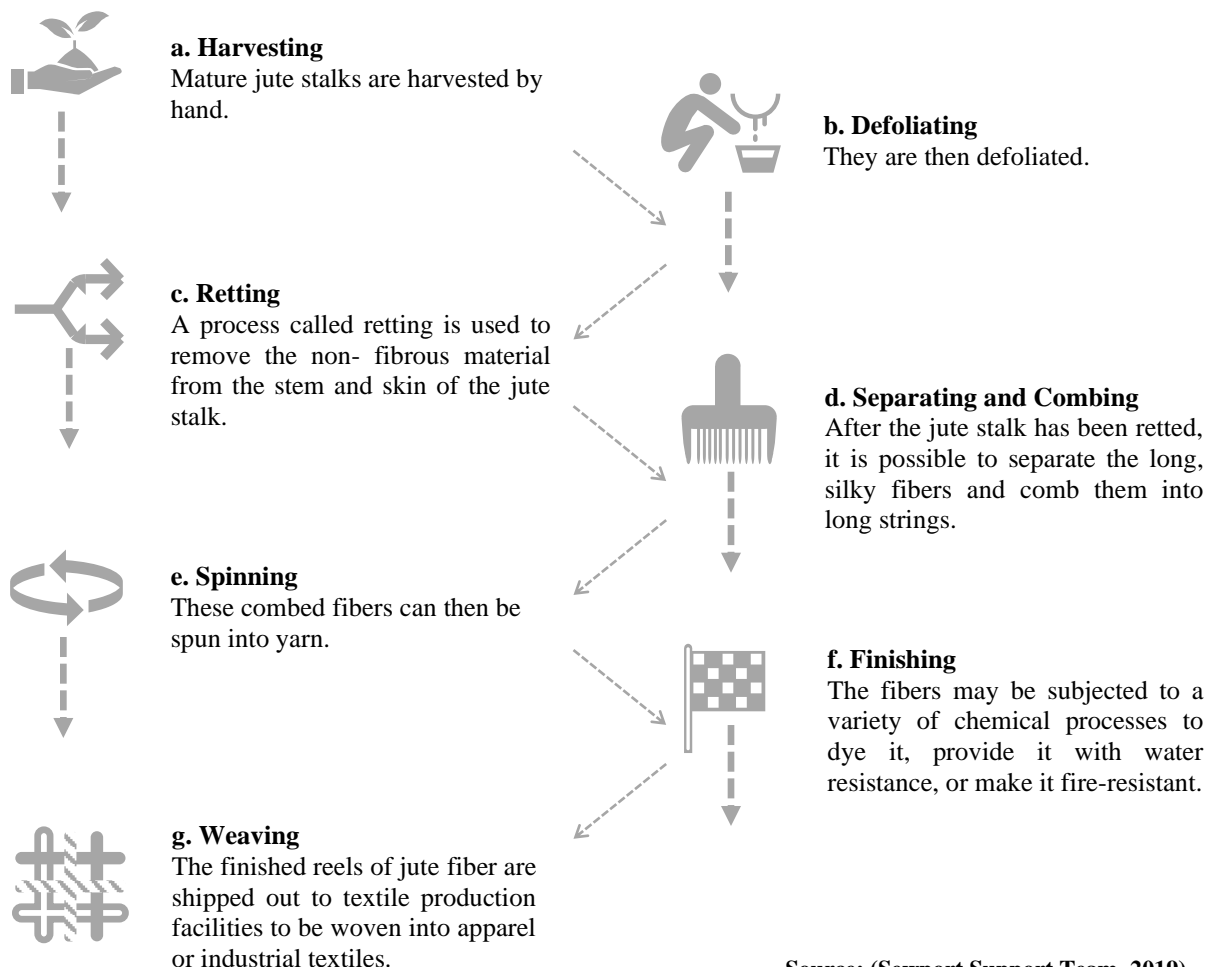
Step: 5 Drying the Jute material



Step: 6 Final Product

3.2 JUTE FABRIC MAKING PROCESS

The step-by-step jute fabric making process is shown below:



Source: (Sewport Support Team, 2019).

3.3 TYPES OF JUTE

There are many types of jute, among them we can highlight some of main varieties of jute as follows:

White jute

“White jute isn’t anywhere near as popular as it once was, but historical records suggest that this fabric used to be the main textile used to clothe the common people of the Bengal region of India. As its name suggests, white jute (fig: 1) is lighter in colour than other strains of this fibre, but this type of jute is also less durable than its cousins.” (Sewport support team, 2023: online).

Tossa jute

“Tossa jute is the main type of jute in production today. It is a hardy crop, and it yields more fibre than white jute. In colour, Tossa jute (fig: 2) is browner than off-white, and its fibres are just as long and strong as any other type of jute in existence.” (Sewport support team, 2023: online).

Mesta jute

“Mesta jute (fig: 3) is a hybrid of white jute and Tossa jute. While this type of jute wasn’t popular historically, political complications during India’s tumultuous independence period led to the prominence of this type of jute’s production.” (Sewport support team, 2023: online).

Jute cuttings

“Jute cuttings (fig: 4) are by-products of jute production. They are the roughest and least desirable parts of the jute plant, but they can still be used to make rudimentary textiles.” (Sewport support team, 2023: online).



Fig:1 White jute in table runner



Fig:2 Tossa jute in sofa

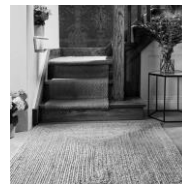


Fig:3 Mesta jute rugs on stairs



Fig:4 Jute cuttings uses in rudimentary textiles

4. IN SEARCH OF POTENTIAL USES OF JUTE

Depending on the user’s choice the study finds jute’s potential uses in many ways. Jute is an amazing natural golden fibre due to its shiny golden colour and financial value. Recently, due to the improvement of people’s living standards and need for environmental protection, the demand of natural biodegradable and eco-friendly fibres is rising worldwide day by day. Here in this paper, I have mainly highlighted how jute uses is facilitating architecturally in interiors.

4.1 JUTE USES IN INTERIOR

Jute uses in daily life create gorgeously comfortable living spaces without fuss or clutter. In recent years, jute has become increasingly popular in interior design due to its eco-friendliness, durability, and versatility. It can be used as alternatives to various interior material that are harmful for the environment. We can recognize the usefulness of jute fabric and give a new hope to interiors designing. Here some of the potential uses of jute in interior are highlighted. We can use it in two ways: a) smaller scale b) larger scale shown as follows in (table-1).

Table:1

Smaller Scale Products (Household Material)	Larger Scale (Finished Interior Material)
i. Jute is already being used to make sacks and storage baskets, suitcases.	i. Jute curtains (Fig:3) are a stylish way to add privacy and texture to a room. Their

		natural fibers help to filter light and reduce noise.
ii.	Textile material, ropes, mats, boot and shoe linings, fish barrel cover, wool pack.	ii. “Screen for film shooting.” (Anwer, 2016)
iii.	Interlinings are often made from jute cloth.	iii. Jute wall hangings are a great way to add a natural element to our decor. They come in a variety of shapes and sizes and can be used to create a focal point in a room.
iv.	“Jute furniture, covers: jute chairs, stools, table & table tops (Fig:1), lounge chairs, beds, sofa sets, room divider, cafeteria chairs & tables, mattress, portable bed, jute hammocks & hanging chairs, shoe rack, jute multipurpose racks, and so on.” (Anwer, 2016)	iv. Jute wallpaper is an eco-friendly alternative to traditional wallpaper. It can add depth and dimension to any room, creating a warm and inviting atmosphere.
v.	“High quality paper pulp now a days is being produced by many paper mills from low-cost jute fiber, jute cuttings and jute wastes.” (Embassy of Bangladesh: online).	v. Jute rope can also be used as a functional room divider (Fig:4) to create separate areas for different purposes. Jute rope stair railings.
vi.	Jute wrapped Lamp shades or Jute chandelier.	vi. Jute border in mirror.
vii.	Hangings, paper, and decorative articles.	vii. Jute panels, false ceilings, roof tiles and partitions are already used in markets.
viii.	“Jute for craftworks (Fig:2): sketchbook, pen holder, paperweights, cards of salutation, jute rapped picture frame, a folder for containing document, gift container, tissue box, jute wall hangings, slip pad holder, jute coasters, jute table mats, jute lampshades, jute stationery.” (Aktar et al., 2014; Sadekin et al., 2015).	viii. Partex is a new lightweight chipboard made from the locally available jute chip. Jute fiber board can also be used for acoustics and air conditioning chambers.
ix.	Diversified byproducts from jute can be used in cosmetics, medicine, paints, and other products.	ix. Wall finished and floor finished materials like carpet backing, jute rugs come in a variety of styles and sizes and can be used in almost any room of the house.



Fig-1 Woven jute table top



Fig-2 Jute Crafts and Products for Decorating Home



Fig-3 Jute Uses in Curtains

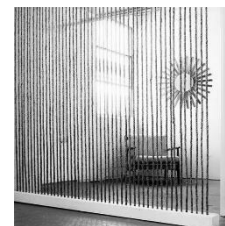


Fig-4 Rope room divider

4.2. POSSIBILITIES OF JUTE MATERIAL

As jute is an environmentally friendly material it has no negative impact on the environment. For example, if mobile covering, computer covering, television covering is made with jute, it will be most effective for the environment because when life time of these devices will be invalid, it is released on the land as a result the fertility of land will not decrease. Doing so with synthetic material destroys the production capability of land. Also, if we make table by jute composite it will minimize the pressure on wood which is most effective for our environment. When jute bag is used as a substitute of polythene bag, it does not hamper the soil as done by polyethylene.

4.3 REPLACEABLE MATERIALS

Synthetic materials, wooden partex board for interior can be replaced by jute. In recent years, jute has gained popularity as an eco-friendly alternative to synthetic materials or wood and wood-based products such as particleboard and MDF (medium-density fiberboard). However, jute can replace synthetic materials or wood partex in interiors in various ways, including:

- a) **In terms of sustainability:** Jute is a renewable resource that is biodegradable and compostable, making it an eco-friendly alternative to synthetic materials and wood-based products. The production of synthetic materials requires non-renewable resources such as petroleum, which has a negative impact on the environment.
- b) **In terms of cost:** Jute is a cost-effective material that can be produced at a lower cost than synthetic materials. This makes it an attractive option for manufacturers looking to reduce their production costs. e.g.- A jute curtain can be manufactured at a lower cost than any synthetic curtain.
- c) **It's versatile character:** Jute can be used in a variety of applications such as packaging, textiles, and construction materials. Its versatility makes it an ideal replacement for synthetic materials that are limited in their applications.
- d) **Durable essence:** Jute fibers are strong and durable, making them suitable for use in construction and furniture-making. Jute boards can withstand heavy loads and are resistant to moisture and pests.
- e) **Aesthetic value:** Jute has a natural, rustic look that can add warmth and texture to interior spaces. It can be finished in a variety of ways, including staining, painting, or laminating, to achieve different looks.

5. ADVANTAGES AND DISADVANTAGES OF JUTE

Some of the advantages of jute materials are.

- Adds an element of texture to any interior and can blend with other Natural or Synthetic fabrics.
- Low thermal conductivity.
- 100% Biodegradable; so, it is an environment friendly fiber like Cotton.
- Cheap in market.
- Can be widely used in Agriculture Sector, Textile Sector, Woven Sector, Nonwoven Sector.

Some of the disadvantages of jute materials are.

- The crease resistance of Jute is very low and it is Prone to wrinkling.
- If Jute is wetted or exposed to moisture it loses its strength.
- Rough and hard, uncomfortable.
- Turns yellow when exposed to sunlight.

DISCUSSION & CONCLUSION

Jute is a versatile natural fiber that can be used in a variety of ways in interior design. Bangladesh is one of the largest jutes producing country. Recently, Jute fiber is getting popularity due to its eco-friendly characteristics. Along with some weakness, it has also some potential strengths which can be utilized by its application in interiors. This can give jute industry a bigger scale which might also contribute to the country's economy. As there are lot of scope for replacing different materials by jute in interiors this opportunity can be taken advantage of in a planned manner. The goal of this paper is to increase or enhance the use of the potential material- jute in interiors which might be done through government level's contribution and also users' awareness.

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