



Sustainable natural fibre : Jute

Zeba Jamal

Department of Textile and Apparel Designing, Guest Faculty, C.C.S., Acharya Narendra Deva University of Agriculture and Technology, Ayodhya (U.P.) India
(Email : zebamamal@hau.ac.in)

Introduction: India is the largest producer of jute in the World. Jute is one of the most important cash crops of eastern India. It is produced from flowering plants in the genus *Corchorus*, which is in the mallow family Malvaceae. It is the crop of hot and humid climate and is exported as goods and as a raw fibre. Jute is one of the most affordable natural fibres and second only to cotton in the amount produced and variety of uses. Jute fibres are composed primarily of the plant materials cellulose and lignin. It falls into the bast fibre category along with kenaf, industrial hemp, flax (linen), ramie, etc. The fibres are off-white to brown and 1–4 metres long. Jute is also called the “golden fibre” for its colour and high cash value.

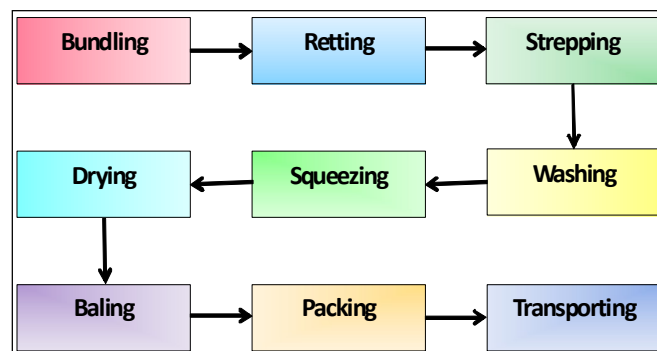
Characteristic features of jute:

- Jute is 100% bio-degradable and thus, environment-friendly.
- It is recyclable and annually renewable.
- It requires very low amounts of pesticides and fertilizers during growth.
- It is a natural fibre with golden colour and silky sheen, hence popularly called as golden fibre.
- Its production cycle is also not very expensive, in fact it is one of the cheapest vegetable fibre produced.
- It is the second most important vegetable fibre after cotton, in terms of usage, global consumption, production, and availability.
- Jute fibers are always known as strong, coarse, environment friendly and organic.
- Jute fibre has some unique physical properties like high tenacity, bulkiness, sound and heat insulation property, low thermal conductivity, antistatic property and a moderate moisture regain.
- Jute can be blended with other fibres both synthetic and natural and accepts cellulosic dye classes such as natural, basic, vat, sulphur, reactive and pigment dyes.
- Jute stem has very high volume of cellulose that can be procured within 4-6 months and hence, it also can save the forest and meet cellulose and wood requirement of the world.

Cultivation of jute: Jute is the crop of hot and humid

climate. It requires high temperature varying from 24°C to 35°C and heavy rainfall of 120 to 150 cm with 80 to 90 per cent relative humidity during the period of its growth. Small amount of pre-monsoon rainfall varying from 25 cm to 55 cm is very useful because it helps in the proper growth of the plant till the arrival of the proper monsoon. Incessant and untimely rainfalls as well as prolonged droughts are detrimental to this crop. Light sandy or clayey loams are considered to be best suited soils for jute. Jute is generally sown in February on lowlands and in March-May on uplands. Compost or farm yard manure, phosphorus and potash, nitrogen fertilizers are used as a fertilizer. The crop takes 8- 10 months to mature but different varieties take different time to mature. The harvesting period generally starts in July and continues till October.

Processing of jute:



The plants are cut to the ground and tied into bundles. Sheafs of jute stalks are then immersed in flood water or ponds or stagnant water for about 2 to 3 weeks for retting. After retting is complete, the bark is peeled from the plant and fibre is removed.

After this, stripping, rinsing, washing and cleaning is done and the fibre is dried in the sun and pressed into bales. All this process is to be done by human hand for which availability of plenty of labour at cheap rates is very essential. Luckily, this labour is readily available because jute is cultivated in areas of high population density.



Chair and table

Furniture

Dresses

Shoes

Bags

Phone sleeve

Diversified jute products:

The Indian jute sector comprises organised jute industry as well as a large number of cottage units. Both modern jute mills and traditional handlooms spin out high quality yarns and weave fine textured fabrics in exotic colours and designs. After bleaching, dyeing and finishing the fibre and blending it with other natural and synthetic fibres the final product ensures total consumer satisfaction in terms of lusture, abrasion, resistance and aesthetic appeal.

Jute is a biodegradable product so it has proved to a dependable material for use an alternative to plastic and timber. Technological advancement and continuous research finding by the textile research institutions has

changed the profile of jute.

Conclusion:

The government should develop a clear vision for the future of jute industry and provide it with appropriate non-distortionary supports. A developed programme in partnership with the private sector can create a fabric bank of higher value-added jute and jute-based fabric, which can be used in hand bags and other fashion items. Further assistance can include initial market research combined with partnerships with the buying community to track market and fashion trends in order to help remain on top of the global demand.

Received : 27.05.2021

Revised : 01.10.2021

Accepted : 05.11.2021