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The ethnobotany and the socio economic relevance of jute in the Koshi region of Bihar, India

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Abstract- In respect with economical plants, Koshi region of Bihar has a huge diversity and Jute play an important role as cash crop which even boost the economy of India and World. The most important fibre of India is obtained from the inner bark of two important species *Corchorus capsularis* (white jute) and *Corchorus olitorius* (tossa jute). Jute is a natural fibre known as golden fibre. It is one of the cheapest and strong fibre of all natural fibre and considered as fibre of the future. Jute is used to make sacks and coarse clothes and also being used for wrapping bales of raw cotton. Jute yarns are woven into fine fabrics to use as curtains, chair coverings, cheap quality rugs, hessian clothes, backing of linoleum and carpets. Jute was mainly used for making sacks but now things have changed and many other ways of utilizing jute has come up. Jute began to lose its popularity with the advent of synthetic materials as the latter was more economical. But slowly people began to realize the negative impact of synthetic materials on the environment. Jute scores over synthetic materials largely due to its biodegradable nature. The leaves are rich in beta carotene, iron, calcium, and Vitamin C. The plant has an antioxidant activity with a significant a-tocopherol equivalent Vitamin E. Jute has socioeconomic values about 1.2 kg of CO₂ is absorbed from atmosphere per every kg of fibre produced. Jute cultivation creates direct employment to farmers, industrial workers and indirect employment to workers associated with ancillary industries. Thus help in economical upliftment of Bihar and nation.

Keywords : Jute, Koshi region, Socioeconomic, *Corchorus capsularis*, Fibre, Bio-degradable, Eco-friendly.

INTRODUCTION

Jute has been used since ancient times in India. During the 19th and early 20th centuries jute was indispensable.

It was used in making sacks, ropes, boot linings, aprons, carpets, tents, roofing felts, satchels, linoleum backing, tarpaulins, sand bags, electric cable, and even parachutes. Jute appealed to the people because of its

strength, low cost, durability and versatility. During the British Raj, most of the raw jute fiber of Bengal was taken to the United Kingdom, where it was then processed in mills concentrated in Dundee. Margaret Donnelly, a jute mill owner in Dundee, set up the first jute mill in Bengal. In the years 1950s and 1960s, when nylon and polythene were rarely used, one of the primary sources of foreign exchange earnings was the jute products. It was also used in military during the British regime.¹

Of late, Jute has entered diverse sectors of industry, where natural fibers are gradually turning better substitutes. Among these industries are paper, celluloid products

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(films), non-woven textiles, composites (pseudo-wood), and geotextiles. In December, 2006 the General Assembly of the United Nations proclaimed 2009 to be the International Year of Natural Fibers, so as to raise the profile of jute and other natural fibers. However, the sudden rise of polythene and other synthetic materials as a substitute for jute increasingly captured the market and jute industry suffered a setback.²

Jute is a rough fibre made from the stems of a tropical plant. There is a large use of jute products in our day today life. So great is its economic value that a huge number of farmers are engaged in the cultivation of jute in Bihar (India). As an industrial crop it is quite cheap and in importance it is only next to cotton. The things made from jute are also eco-friendly.³

It is widely cultivated in West Bengal, Assam, Bihar, U.P., Orissa and Kerala. But West Bengal holds 1st position in India.

Various step of making jute fibres. Jute is harvested between 120 days to 150 days from sowing when the flowers have shed. Early harvesting gives good healthy fibers. At the time of harvesting plants are cut or uprooted near the ground level. The harvested plants are left on dry land in field for two or three days for the leaves to shed. The stems are then made up into bundles for steeping in water. Steeping is carried out immediately after harvest. After harvesting, the jute stalks are tied into bundles and submerged in running water. The stalk stays submerged in water for around 20 days. However, the retting process may require less time if the quality of the jute is better. In most cases, the fiber extraction process of fibers in water retting is done by the farmers 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. After losing the fiber, the fiber is washed with water and squeezed till the last drop of water. 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 into the primary market.

Jute requires a warm and humid climate with temperature between 24°C to 37°C. Constant rain or water-logging is harmful.⁴ The gray alluvial soil of good depth, receiving salt from annual floods, is the best for jute. Flow ever jute is grown widely in sandy loams and clay loams. In Koshi Region it is widely cultivated in Supaul, Purnea

and Kishanganj districts of Bihar. Koshi region is a flood prone area and very suitable for cultivation of Jute.

Sowing of jute in midlands and highlands starts with showers in March and continues till early June. Compost, Phosphorus and Potash, Urea, Nitrogen fertilizers are used as fertilizers. It also requires 500mm of water. Jute grows very fast as compared to other products. It hardly takes 4-6 months. Cellulose produced from jute can be used to suffice the demand of wood around the world. Jute is a crop which can save the planet from being polluted by the products which are produced by the polluting factories. Jute is the most eco-friendly as it is useful from the time it is seed to the time its fiber expires because of its biodegradability feature. Another diversified jute product is Geotextiles. It is one of the most important diversified products of jute. It is produced by blending jute with other natural fibers in fixed proportion and fabricated in definite pattern. They are also further treated with locally available chemicals according to need and life span. It has a moisture absorbing capacity. It is also very flexible and has good drainage properties. It can be used in soil erosion control, vegetation consolidation, protection of river banks and in road construction.

Area of Study

The area of study was the Supaul district of Bihar. Supaul is located at 25.93°N and 86.25°E. It has an average elevation of 34 metres. Supaul had been a part of Mithilanchal since the Vedic. The study was also based on survey of Purnea and Kishanganj districts of Bihar (India).

METHODOLOGY

A questionnaire was prepared and used as a tool for the collection of information. The questionnaire was divided into two parts: demographic and ethnobotanical data. The first part included demographic data, location name, age, education and profession. The second part included questions about the cultivation of Jute and its economic and medicinal value.

OBSERVATION AND RESULT

The jute plant fibers lie beneath the bark and surround the woody central part of the stem. To extract the fibers from the stem, the process is carried out in the following stages:

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Jute from field to market

1. Bundle Stalk
2. Retting
3. Strepping
4. Washing
5. Kutcha Packing
6. Bailing
7. Sundry
8. Squeezing Excess
9. Storage Transport

- ◆ Jute fiber is 100% biodegradable and recyclable and thus environmentally friendly.
- ◆ It takes very short time to grow (4-6 months) which can be useful in growing other food crops.
- ◆ It is a natural fiber with golden and silky shine and hence called 'The Golden Fiber'.
- ◆ It is the cheapest vegetable fiber procured from the bast or skin of the plant's stem.
- ◆ It is the second most important vegetable fiber after cotton, in terms of usage, global consumption production, and availability.
- ◆ Advantages of jute include good insulating and antistatic properties, as well as having low thermal conductivity and moderate moisture regain.
- ◆ Other advantages of jute include acoustic insulation properties and manufacture with no skin irritations.
- ◆ Jute has the ability to be blended with other fibers, both synthetic and natural, and accepts cellulosic

dye classes such as natural, basic, vat, sulfur, reactive, and pigment dyes. The resulting jute/cotton yarns will produce fabrics with a reduced cost of wet processing treatments.

- ◆ Jute can also be blended with wool. By treating jute with caustic soda, crimp, softness, pliability, and appearance of it are improved, aiding in its ability to be spun with wool.
- ◆ It has high tensile strength, low extensibility, and ensures better breathability of fabrics. Therefore, jute is very suitable in agricultural commodity bulk packaging.
- ◆ It helps to make best quality industrial yarn, fabric, net, and sacks. It is one of the most versatile natural fibers that have been used in raw materials for packaging, textiles and non-textile construction, and agricultural sectors. Bulking of yarn results in a reduced breaking tenacity and an increased breaking extensibility when blended as a ternary blend.
- ◆ The leaves are rich in beta carotene, iron, calcium, and Vitamin C. The plant has an antioxidant activity with a significant a-tocopherol equivalent Vitamin E.

Other uses

Diversified jute products can also be used in cosmetics, medicine, paints, and other products.

CONCLUSION

Jute is natural fibre popularly known as the Golden Fibre. it is one of the cheapest and the strongest of all natural fibres and considered as fibre of the future. To enhance the cultivation of jute, to reduce the expenses of jute cultivation, to improve the quality of jute, Indian Agricultural Research Institute & Indian Central Jute committee are engaged in different researches. The major problems of growers are the low market price and low demand of jute due to excessive plastic products. Because of non-availability of high yielding variety jute seeds on the sowing period, farmers are not interested in HY jute cultivation.

In Koshi Region it is widely cultivated in Supaul, Purnea and Kishanganj districts of Bihar. Koshi region is a flood prone area and very suitable for cultivation of Jute.

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