

Bamboo: An Ruling Grass from Household to Industry

Jyoti Papola

PhD Scholar,

*Institute of Wood Science and Technology, 18th Cross Road,
Kodandarampura Malleswaraa Bengalur, Karnataka
20jyotipapola@gmail.com*

Abstract: *From primal time plants are playing an important role to support the mankind in their existence, livelihood and other developments. We are directly dependant on plants for food, biofuel, shelter and in many more aspects. In todays modern era due to over population the demand for resources for the structural purposes, for living has been extensively increased. The over exploitation of the forest resources by mankind is redundant. Bamboo have received a lot of attention due to its many utilization. Bamboo being important non timber forest resource have ruled due to its economical, biological and ecological important natural resource have replaced the timber from household to industry level.*

Keywords: *Bamboo, Renewable*

1. INTRODUCTION

Bamboo is a renewable and versatile resource. It is a perennial grass that belongs to the family Poaceae, also known as “Green gold”. It is predominately found in tropical and subtropical regions. Most of them found in Africa, Asia and Latin America. Due to the high socio economic benefits it is the most important non timber forest resource. Its life cycle is quite slow and grows three times faster than other species. The wood resources are declining from the forest areas, bamboo being a saviour in many aspects such as carbon sequestration, renewability and other environmental characteristics.

1.1 Bamboo Housing

Bamboo is the backbone of worlds rural life and it will be remain due to the over population. The dwelling problems occurring and therefore housing is a basic requirement and if we see bamboo is the most cost effective one. Bamboo used for partitions, walls. Also the roof provide shelter against unfavourable conditions like sun, rain, wind etc. The structural framework are also so strong and resilient in nature, they can be easily bend and can be provide joints to suit constructions. The rural

people build their houses, they decorate the buildings, bamboo of 6-9 months are quite feasible for making the baskets. Due to its high elasticity it makes useful for building materials and to withstand against the high risk of earthquakes. For construction bamboo of 3-6 years are quite suitable . It has got high tensile strength, able to resist more tension than compression. The strong fibres in the outer most part of the tube works positively in connection with elastic modulus. Bamboo has got anisotropic property means property in longitudinal direction are completely different in the transverse. The are highly resistance to the fire also.

1.2 Environmental benefits

Apart from providing shelter bamboo has high soil holding capacity, it maintains the stability of soil. Its roots plays important role in leaching out the heavy metals and thereby efficiently water to the surface due to the high water absorption capacity. Bamboo helps in maintaining the ecosystem by taking a large amount of nitrogen from the soil and carbon dioxide from air and ultimately alleviate both air and water pollution.

1.3 Food Material

Bamboo shoots when attain a height of 15-16cm they are harvested and by removing the fibrous sheaths the interior portion is washed with water and they are chopped into small pieces. These pieces are used as delicious vegetable material in soups, curry. Food items from bamboo like pickles, soft drinks, wine are consumed. Bamboo of < 30 days is good for eating.

1.4 Medicines

From seed to bamboo shoots all are having high medicinal property. The seed are laxative in nature. The leaf posses anti flammatory, anti diabetic and some

astringent property. For the skin eruptions the bark can be used.

1.5 *Pulp and paper*

The fibers of bamboo are best for manufacturing of pulp and paper. As bamboo is a fast growing species so it contain 57-65wt % cellulose, 27-30 wt % hemicelluloses and 4.9-5.0 wt % lignin respectively .

1.6 *Bamboo laminates*

One of the most exciting application field for the value addition of bamboo is the manufacturing of the bamboo laminates. The are commonly used in doors, windows frames, flooring etc. Bamboo need to undergo various processing for the value addition. Some species like *Dendrocalamus strictus*, *Bambusa bambos* are widely used . For the manufacturing various parameters need to undergo like one of them is hardness. The softer species are easy to cut and work. The harder one have got high silica content which hampers the cutting and it can lead to the blunting of knives and blades. Age also plays critical role in manufacturing, Bamboo of two to four years are best for making the strips. The third parameter is moisture content it should be of 50-60% . the last one is the girth, it should be high and therefore gives better yield.

2. ADVANTAGES AND DISADVANTAGES OF BAMBOO.

2.1 *Advantages of Bamboo: The advantages of bamboo are as following:*

- Fast growing.

- Eco friendly.
- Self renewable resource.
- Affordable by poors.
- Low cost.
- It is durable and strong.
- It is resilient and light in nature.

2.2 *Disadvantages of Bamboo: The disadvantages of bamboo are as following:*

3. CONCLUSION

Bamboo has got assorted uses in our day to day life. It has played an important role in development of mankind. This green gold has revolutionize the world from a material of choice for fashions, buildings, flooring to financial economic gain opportunities and many more. This unique plant has got rapid growth and plays important role in improvement of soil and the stability of the environment. As the natural forests are depleting to a great number the realization of bamboo has become most important non timber resources. Due to its high valued utilization it not promotes the stability in ecosystem but also increased economy by creating large job opportunities.

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