

## **BANANA FIBRE EXTRACTION AND PROCESSING VARIOUS PRODUCTS**

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### **BANANA FIBRE EXTRACTION AND WEAVING**

#### **INTRODUCTION**

Banana fibre is eco friendly like jute fibre. The technology of banana fibre extraction has been developed in South India where in a good number of banana fibre extraction units have been running very successfully. Some firms are exporting the banana fibre products. Banana growing states of N.E. Region has adopted the technology from South and started production of banana fibre and fabric. This can create a lot of employment opportunities for almost all age groups.

#### **MARKET POTENTIAL**

The banana fibre is being used for weaving attractive pieces of clothes, rugs, sarees etc. Besides, it is also being used to produce a variety of items such as hats, photo frames, trinket boxes, gift bags, picture frames, hand bags, belts, baskets and

**Courtesy :** 

sandals etc. Dresses woven out of natural fibres are in great demand inside and outside India.



### PLANT CAPACITY

Capacity utilization: 70%

Average daily production envisaged : 10 Kg cloth.

Working days/year : 25 days in a month and 300 days in a year

Annual production	
Door Mat	: 1000 nos
Floor covering	:1000 nos
Screen	: 1600 Mt.
Durry	:1500 Nos.

### RAW MATERIALS

The main raw material for the unit is banana tree which is abundantly available in the State of Meghalaya, Mizoram, Arunachal Pradesh and Assam.

Cost of Banana Stem : 1.40 lakhs

Misc. items :0.20 lakhs

**Total : 1.60 lakhs.**

### SUGGESTED LOCATION :

Banana growing areas in Kerala – Palakkad(Attappadi, Mannarkkad), Kottayam, Kozhikkode

### PROCESS

**Banana Fibre Processing and Weaving :**

Courtesy : 

The extraction of the natural fibre from the plant required certain care to avoid damage. In the present experiments, initially the banana plant sections were cut from the main stem of the plant and then rolled lightly to remove the excess moisture. Impurities in the rolled fibres such as pigments, broken fibres, coating of cellulose etc. were removed manually by means of comb, and then the fibres were cleaned and dried. This mechanical and manual extraction of banana fibres was tedious, time consuming, and caused damage to the fibre. Consequently, this type of technique cannot be recommended for industrial application. A special machine was designed and developed for the extraction of banana fibres in a mechanically automated manner. It consisted mainly of two horizontal beams whereby a carriage with an attached and specially designed comb, could move back and forth. The fibre extraction using this technique could be performed simply by placing a cleaned part of the banana stem on the fixed platform of the machine, and clamped at the ends by jaws. This eliminated relative movement of the stem and avoided premature breakage of the fibres. This was followed by cleaning and drying of the fibres in a chamber at 20°C for three hours. These fibres were then labeled and ready for lamination process. After extraction of fibre, weaving is done in the looms as per normal process like any other material.

## **MACHINERY**

The major equipment required are :

<b>Sl.No.</b>	<b>Particulars</b>	<b>Nos.</b>
1.	Banana fibre extractor	2
2.	Loom complete with all accessories	4
3.	Bobbin circle	1

4.	Charkha	1
5.	Bobbin	100
6.	Pirn	100
7.	Shuttle	8
8.	Misc. items	L.S.

### INFRASTRUCTURE

The major infrastructural requirement are :

Covered area : 1200 Sq.ft

Power : 5 KW

### TOTAL CAPITAL REQUIREMENT

The total capital requirement including fixed capital and working capital is estimated at Rs.1.70 lakhs as follows. Of this, the project cost comprising fixed capital and margin money on working capital is Rs.1.55 lakhs.

(Rs. In lakh)

#### Fixed Capital :

Land and Building	Own
Plant and Machinery	0.90
Misc. fixed assets.	0.30
Preliminary & Pre-op. Expenses:	<u>0.10</u>
Total(A) :	1.30

#### Working Capital :

Raw materials & Packing materials 15 days	0.09
Finished goods (15 days)	0.20
Working Expenses (1 month)	0.16
Receivables (15 days)	<u>0.25</u>
<b>Total (B) :</b>	<b><u>0.70</u></b>

Courtesy : 

**Total(A) + (B)2.00**

**Note :**Working capital

Bank Finance (65%) :Rs. 0.45 lakh

Margin Money (35%) :Rs. 0.25 lakh

**Total :Rs.0.70 lakh.**

**Capital Cost of Project**

Fixed Cost : Rs. 1.30 lakh

Margin Money for Working Capital. : Rs. 0.25 lakh

**Total :Rs. 1.55 lakh.**

**MEANS OF FINANCE**

Promoter's contribution (35%) : 0.55 lakh

Term Loan (65%) : 1.00 lakh.

**Total :1.55 lakh**

**OPERATING EXPENSES**

The annual operating expenses are estimated at Rs 4.99 lakhs as given below :

	(Rs. In Lakh)
Raw materials :	1.60
Packing materials. :	0.20
Utilities :	0.40
Wages & Salaries :	1.50
Rent, Insurance etc. :	0.30
Other overheads. :	0.35
Selling expenses @ 5% on annual sales:	0.33
Interest on term loan @ 12.50% :	0.13
Interest on bank finance for working capital @11% :	0.05
Depreciation 10% on M/c. :	<u>0.13</u>

**Courtesy :** 

**Total :** 4.99

### SALES REALISATION

Items	Qty.	Rates(Rs)	Value (Rs) ( Lakhs)
Door Mat (13' x 22')	1000 Nos.	60/-	0.60
Floor Covering (4' x 6')	1000 Nos.	300/-	3.00
Screen	1600 Nos.	50/-	0.80
Durry (2.5' x 5.0')	1500 Nos.	150/-	2.25
Total			6.65

### PROFITABILITY

Based on the sales realization of Rs 6.65 lakhs and the operating expenses of Rs 4.99 lakhs, the profit at rated capacity utilization would be Rs 1.66 lakhs per year. This works out to be return on investment of 98%. The unit will break even at about 31% of the targeted annual production.

### HIGHLIGHTS

The major highlights of the project are as follows:

Total capital requireRs.		1.70 lakhs.
Promoter's contribution	Rs	0.55 lakhs.

Courtesy : 

Annual Sales realization	Rs.	6.65 lakhs.
Annual operating expenses	Rs.	4.99 lakhs.
Annual Profit (Pretax)	Rs.	1.66 lakhs.
Pre-tax return on sales		25%.
Break-Even Point.		31%.
No. of persons employed.		8 Nos.

### SUPPLIERS OF MACHINERY

Addresses of Machinery and Raw Material Suppliers :

Supplier of Banana FibreExtractor :

Eco Green Unit "Sugandavanam" Sethumadai, Pollachi TK, Coimbatore Dist, Tamilnadu. Pin - 642133. PH : 04253 244269 Mobile : 94433 66374	Krishi Vigyan Kendra Kalavacharla, East Godavari District Andhra Pradesh 0883 – 2449871	Mother India No.12-B.IFloor,First Rajendra Nagar, Palayamkottai- 627 002, Tamilnadu,India. Call : + 91- 0462- 2561 325 / 2561 354 Fax : + 91- 0462- 4000037, Mail : <a href="mailto:business@motherindiaworld.com">business@motherindiaworld.com</a> , Click: <a href="#">welcome to mother india</a>
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Looms and other accessories are available in the local market