

**PROJECT REPORT FOR INSTALLATION
OF
HEAVY DUTY DE-FIBERING MACHINES
WITH 20 HP MOTOR**

Beneficiaries:

PRIVATE ENTREPRENEURS

The most crucial, and weakest, link in coir processing value-chain in the State is 'husk procurement'. As per Kerala State Planning Board, about 538 crore coconuts were produced in the State in 2016-17 (Economic Review 2017). It is estimated that only about 5% of the husk from these 538 crore nuts were converted to fibre within the State. Only about 85,000 MT of fibre is produced within the State. This predicates that Kerala has to depend on fibre from neighboring states to keep the industry alive.

The State has an ambitious plan to improve husk utilization to 30%. This would ensure that at least 1.25 lakh MT of fibre is additionally made available each year. The success of the plan would depend on the deployment of mechanized DF mills on a large scale. The Department has already commenced this exercise. The most vital aspect of mechanization - upon which hinges sustainable fiber production- is the procurement of husk in large quantities directly from the farmers.

Installation and working of the large capacity heavy-duty defibering unit is profitable to private entrepreneurs when it is supplied to them with 50% subsidy on machines supplied. It is proposed that the cost of land, civil works, electrification, and other associated expenses are to be borne by the beneficiary and 50% backend subsidy shall also be procured.

The cost of machine with 20 HP capacity is Rs. 8.21 lakhs per unit. The machines may be procured from any source and carries a 50% subsidy. The investment on the cost of land, building including civil works, electrification, and other associated expenses is also subsidized up to the value equal to the cost of machinery.

The present project cost a total of Rs. 21.58 lakhs. The cost on land and building is Rs. 8.00 lakhs and the cost of machinery unit is Rs. 8.21 lakhs. 50% subsidy is offered for both these items, and hence the amount required to be invested by the beneficiary is Rs.4.00lakhs and Rs. 4.10 lakhs respectively. Other capital investment required by the beneficiary is Rs. 1.25 Lakhs towards the cost of electrification, plumbing etc.

It is assumed that the need for working capital is for one month as the fibre produced will be sold out on a weekly basis at fair price. The working capital required for one month is Rs. 4.12 Lakhs.

The business model is worked out considering that the beneficiary is getting 50% subsidy on the cost of machines, land and building required. He would avail a bank loan of Rs. 7.36 lakhs for capital investment and an amount of Rs. 3.09 lakhs towards working capital. ***The amount contributed by the beneficiary towards the implementation of the project is Rs. 3.09 Lakhs which include Rs. 2.00 Lakhs as beneficiary contribution towards capital investment and Rs. 1.03 Laks towards margin money for availing working capital.***

Total bank loan towards capital investment and working capital is Rs. 10.45 Lakhs and the term for repayment is 5 years. The monthly EMI would be Rs. 24315.00, totaling to Rs. 2.92 Lakhs per annum. The project ensures a net profit of Rs. 7.39 lakhs in the first year with increase every subsequent year of operation.

It has a healthy DSCR of average 5.2. This shows excellent profitability of the business and a positive repayment capacity. This will facilitate the availability of the bank loan. The facility availed from any commercial bank can be repaid in a short period of 5 years from the sales accruals of the business.

Therefore, installation and running of the heavy-duty defibering machine would be a profitable business model and the operation of such machines will ensure adequate coir fiber for the benefit of the coir industry in Kerala.

COST OF PLANT & MACHINERY

COST OF FABRICATION, SUPPLY AND INSTALLATION OF 20 HP DEFIBERING MACHINE					
Value in Rs. Amount in Lakhs					
No	Description	Qty	Unit	Rate	Amount
2	Foundation for 20HP DF Machine	1		30000	0.3
3	Foundation for 5HP Willowing Machine	1		20000	0.2
5	20 HP Defibering machine with crusher	1	No	357000	3.57
6	5HP Willowing Machine	1	No	80000	0.8
7	Screener with 1 HP Motor	1	No	50000	0.5
8	4 Mtr long Conveyor with 1 HP Motor	1	No	60000	0.6
9	Screener for pith with 1 HP Motor	1	No	40000	0.4
10	3 Mtr Long Conveyor	1	No	50000	0.5
13	Sub Total				6.87
14	GST 18%				1.24
15	Transportation				0.10
	Grant Total				8.21

In the above list of components, the following items can also be added which are optional:

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|-------------------------------------|---------------------------------------|
| 1. Baling Press | Rs. 250000.00 + 18% GST |
| 2. Additional Crusher Unit | Rs. 150000.00 + 18% GST |
| 3. Water tank of 15000 Ltr Capacity | Rs. 225000.00 + 18% GST as applicable |

If these components are also added to the project, depending on the necessity, subsidy will be applicable @ 50% on the cost of items.

PROJECT COST AND MEANS OF FINANCE			
Amount in Rs. Lakhs			
Means of Finance		Project Cost	
Promoter contribution	2.00	Land and Building	8.00
Margin Money for Working Capital Loan	1.03	Working Capital for 1 Month	4.12
Working Capital Loan	3.09	Plant, Machinery and equipments	8.21
Bank Loan	7.36	Other Miscellaneous Fixed Assets	1.25
50% Subsidy on Land & Bldg	4.00		
50% Subsidy on Machine cost	4.10		
Total	21.58		21.58

LAND & BUILDING					
No.	Description	Qty	Unit	Rate	Amount
	LAND Available				
	BUILDING				
1	New building - Civil Construction	1000.00	Sft	800.00	8.00
		Total			8.00

MISCELLANEOUS FIXED ASSETS					
Amount in Rs. Lakhs					
No.	Description	Qty	Unit	Rate	Amount
1	Electrification & Plumbing Etc	1	LS	125000.00	1.25
		Total			1.25

DETAILS OF PLANT AND MACHINERY					
Amount in Rs. Lakhs					
No.	Description	Qty	Unit	Rate	Amount
1	Cost of De-Fibering Machine				8.21
	Total				8.21
RAW MATERIALS & CONSUMABLES					
On Single Shift basis. Amount in Rs. Lakhs					
No.	Description	Qty/day	Unit	Rate	Amount/year
1	Coconut Husk	8000	No	1.5	36.00
			Total		36.00

Raw material required for the operation of the unit is raw coconut husks and the husks are freely available in the State, as the Government is all possible support for organized husk collection. The unit requires 8000 husks per day for running the unit on single shift basis. At Rs. 1.50 per husk, the cost of raw material per year would be Rs. 36.00 Lakhs

MANPOWER & EMOLUMENTS				
Monthly requirement. On Single Shift basis. Amount in Rs.Lakhs				
No.	Description	No.	Monthly	Amount
1	Skilled Workers	4	15,000	0.60
		Total		0.80

The unit requires 4 skilled workers for feeding the husk, drying the fiber and pith and for baling the dried fiber for transferring them to spinning units. The cost of labor is assumed to be Rs. 60,000.00 per month.

UTILITIES					
On the basis of single Shift , 8 hours/shift, 300 working days/year. Amount in Rs. Lakhs					
No.	Description	Qty/day	Unit	Rate	Amount/year
1	Electricity	160		5.50	2.64
				Total	2.64

Working Capital for 1 Months		
Amount in Rs. Value in Lakhs		
No.	Description	Amt for 1 Month
1	Utilities	0.22
2	Salary and Wages	0.60
3	Raw materials	4.00
		4.82

ANNUAL SALES RETURN					
On the basis of Single Shift , 8 hours/shift, 300 working days/year. Amount in Rs. Value in Lakhs					
No.	Description	Qty/day	Unit	Rate	Amount/year
1	Coir Fibre	700	Kg	24.00	50.40
2	Coir Pith	1400	Kg	5.00	21.00
3	Baby fibre and Pith	300	Kg	4.00	3.60
				Total	75.00

Repayment Schedule					
	Y1	Y2	Y3	Y4	Y5
Term Loan Repayment / Yr	1.48	1.48	1.48	1.48	2.59
Interest(including for WC)	1.46	1.26	1.05	0.84	0.66
Other Payment	0.00	0.00	0.00	0.00	0.00
Total	3.94	2.74	2.53	2.32	3.25

The projected average debt service coverage ratio is 5.2 and hence, it is easy to avail bank loan from any commercial bank.

Debt Service Coverage Ratio					
	Y1	Y2	Y3	Y4	Y5
REPAYMENT	3.94	2.74	2.53	2.32	3.25
NET PROFIT	7.39	9.81	13.87	17.32	15.38
DEPRECIATION	1.9	1.78	1.58	1.4	1.24
TOTAL	9.29	11.59	15.45	18.72	16.62
D S C R	2.35	4.22	6.10	8.06	5.11
AVERAGE DSCR			5.2		

PROJECTED PROFITABILITY STATEMENT					
Amount in Rs. Value in Lakhs					
	Y1	Y2	Y3	Y4	Y5
Capacity Utilisation	60%	75%	90%	100%	100%
Revenue:					
Opening Stock	0	2.79	3.07	3.38	3.71
Sales	51.12	63.9	76.68	85.2	85.2
Less: Rejections /wastage	5	5.25	5.51	5.79	6.08
Closing Stock	2.79	3.07	3.38	3.71	4.08
Net Sales	43.33	55.58	67.79	75.7	75.04
Cost of Goods:					
Materials	21.6	29.7	36.72	42	42
Cost of Goods	21.6	29.7	37.72	42	42
Value of Goods Sold	43.33	55.58	67.79	75.7	75.04
Gross Profit (Loss)	21.73	25.88	30.07	33.7	33.04
Controllable Expenses:					
Payroll	7.2	7.63	8.09	8.58	9.09
Fixed Expenses:					
Interest	1.46	1.26	1.05	0.84	0.66
Depreciation	1.9	1.78	1.58	1.4	1.24
Utilities	2.3	3.92	4	4.08	4.08
Loan Principal	1.48	1.48	1.48	1.48	2.59
Total Expenses	14.34	16.07	16.20	16.38	17.66
Net Operating Income	7.39	9.81	13.87	17.32	15.38

Assumptions:

Cost of husk = Rs.1.5 per unit (increases 10 % each year first three years before stabilising)

Selling price of fibre = Rs.24 / kg (avg)

Selling price of pith = Rs.5/kg (avg)

Selling price of bit fiber = Rs. 4/kg (avg)

Wages/Payroll = 4 workers @ Rs.15,000 p.m. Increasing 6% year-on-year
Interest on T/L and WC computed @ 14% p.a.
Utilities : Electricity @ Rs.5.50 / unit (LT-IV)

PROJECTED CASH FLOW STATEMENT					
Amount in Rs. Value in Lakhs					
	Y1	Y2	Y3	Y4	Y5
Cash Collections (Gross Profit)	21.73	25.88	30.07	33.70	33.04
Total Cash Inflows	21.73	25.88	30.07	33.70	33.04
Available Cash Balance	21.73	25.88	30.07	33.70	33.04
Cash Outflows (Expenses):					
Interest	1.46	1.26	1.05	0.84	0.66
Payroll	7.2	7.63	8.09	8.58	9.09
Utilities	1.90	1.78	1.58	1.40	1.24
Subtotal	10.56	10.67	10.72	10.82	10.99
Other Cash Out Flows:					
Loan Principal	1.48	1.48	1.48	1.48	2.59
Subtotal	1.48	1.48	1.48	1.48	2.59
Total Cash Outflows	12.04	12.15	12.20	12.30	13.58
Ending Cash Balance	9.69	13.73	17.87	21.4	19.58

The project for installing heavy duty De-fibering machine is a highly profitable business and hence private entrepreneurs can be attracted to start the business of De-fibering. Since the state is need of large number of De-fibering units to be installed to tide over the raw material shortage in the coir industry, attracting private entrepreneurs is an excellent option. Since the Government is offering subsidy of 50% on the machinery purchase and building construction for private entrepreneurs, more of the public will be interested in starting De-fibering units in the places where coconut husks are available for the operating of the unit.

It is seen that the installation and operation of the De-fibering unit is less labour intensive, highly profitable and incur very less investment for private entrepreneurs.

Since there is acute shortage of coir fiber and coir yarn which is the basic raw material required for the sustenance of the coir industry, marketing of the final product of the project is not a problem, as the final product is coir fiber.

On the above, the project is economically viable, socially acceptable and if more number of private entrepreneurs are attracted towards installing and operating Heavy Duty De-fibering machines, the coir fiber shortage in the coir industry in Kerala can effectively be overcome.

On the above extensive publicity may be done in Kerala to attract more private entrepreneurs who can start the business of coir fiber production.

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