

# **MODEL PROJECT REPORT**

**FOR**

**SETTING UP OF**

**8 SEMI-AUTOMATIC**

**JACQUARD POWER LOOM UNIT**



**INDEX**

<b>Chapter</b>	<b>Subject</b>	<b>Page No.</b>
1	Introduction	1
2	Project at a glance	2
3	Major assumption	3
4	Product details	4
5	Production details	5
6	Project details	6
7	<u>Expenditure details</u> Raw material requirement. Working capital requirement Means of finance/Power cost/Salaries & Wages Details of Plant & Machinery/Depreciation of Plant & Machinery Interest and Instalment schedule of long term loan Factors of production Estimate of cost of production Break-even point/Expenditure & Profit statement Profit statement and debt service coverage ratio. Internal rate of return/payback period and profit/shawl	7 8 9 10  11/12 13 14 15 16 17
8	Conclusion	18

## CHAPTER -1

### INTRODUCTION

Modernisation of the decentralised Power loom shawl weaving sector with Jacquard looms in order to augment the value added product to meet the domestic as well as export market in the free trade era. The Project Reports on Jacquard Power looms will help to the existing Powerloom owners/entrepreneurs/potential investors and they will get a fair idea of various benefits, viability, profitability while implementing the projects.

The Semi-automatic jacquard loom project will be suitable for Amritsar Cluster for manufacturing of woollen shawls because there will be better marketability of the products in the Northern Region especially in Himachal Pradesh, Jammu Kashmir, Haryana, Delhi and Uttaranchal during winter season.

The investors can avail 20 % capital subsidy under TUF Scheme if the Powerloom Unit is under SSI sector where the investment in Plant & Machinery is Rs.1.00 crore or 5% interest subsidy for the units under SSI or NON-SSI.

**CHAPTER – 2**

**PROJECT AT A GLANCE**

1	Installed Capacity (Weaving)	8 Semi-auto jacquard looms of 182cmsx4/1 with 900 hooks.
2	Production of 8 looms /day of 3 shifts at 80 % utilisation and 80% efficiency.	152 Shawls (19 Shawls of 80"x40"/loom/day)
3	Total Project cost	Rs. 68.60 lakh
4	Means of finance Promoter's contribution Term Loan	Rs. 14.10 lakh Rs. 54.50 lakh ----- Rs. 68.60 lakh -----
5	Sales Realisation Cost of production Gross profit Net profit	Rs. 190.45 lakh Rs. 133.74 lakh Rs. 56.71 lakh Rs. 27.19 lakh
6	Payback period	8 years (one year moratorium)
7	Break even point	43.24%
8	Profit/Shawl	Rs. 49.97
9	Direct Employment	39

**CHAPTER -3**

**MAJOR ASSUMPTIONS**

The following major assumptions have been made after taking in to consideration of various factors prevailing in the existing Powerloom Units.

1.	Status of the project	:	Sale of Woollen Shawls of jacquard.
2.	No. of working days /annum	:	358
3.	Loom Capacity utilisation	:	80 %
4.	Loom Efficiency	:	80 %
5.	Cost of power	:	Rs. 4.32 per unit
6.	Interest rate on term loan	:	10 %
7.	Interest rate on working capital	:	12 %
8.	Cost of warp(2/56 Nm woollen yarn)	:	Rs. 520/- per kg
9.	Cost of weft(48 Nm woollen yarn)	:	Rs. 450/- per kg
10.	Selling price of shawl(ex-factory)	:	Rs. 350/- per shawl

**CHAPTER – 4**

**PRODUCT DETAILS**

The proposed product is woollen shawl having the following quality parameters.

1. Product : Woollen shawl
2. Count of warp : 2 / 56 Nm worsted yarn
3. Count of weft : 48 Nm worsted yarn
4. Reed : 56
5. Pick : 80 (Double Weave Design )
6. Size of the Shawl : 2.00met x 1.00 met. ( 80'' x 40'' ).

**CHAPTER – 5**

**PRODUCTION DETAILS**

The expected production for a unit of 8 Semi-automatic Jacquard looms of 900 hooks for the manufacturing of woollen shawls has been calculated as under.

1.	Type of Loom	:	Semi-automatic Jacquard loom of 900 hooks.
2.	Speed	:	140 RPM
3.	Working hours/shift	:	8 hours
4.	No. of shifts / day	:	3
5.	Working days/annum	:	358
6.	Efficiency	:	80 %
7.	Utilisation	:	80 %
8.	No. of Looms	:	8
9.	Production/loom/shift	:	$\frac{140 \times 60 \times 8 \times 80 \times 80 \times 1 \times 95}{100 \times 100 \times 80 \times 100} = 6.38$
	shawls		
	(5% shrinkage)		80
10.	Production/loom/day	:	19 Shawls
11.	Production/8 looms/day	:	152 shawls
12.	Production/8 looms/annum of 358 days	:	54,416 shawls

## CHAPTER – 6

### PROJECT DETAILS

The Project details consists the estimates of the cost of land, building, plant and machinery and are as under.

#### **Project Cost Estimates**

1.	Land (8850Sq. ft)	:	Rs. 8.90 lakh ( @ Rs. 100/sq.ft.)
2.	Building(5320 Sq. ft)	:	Rs.18.62 lakh ( @ Rs. 350/ sq. ft.)
	a) Loom shed ( For 8 Power looms)	:	1200 sq. ft.
	b) Preparatory	:	3000 sq. ft.
	c) Raw material store	:	224 sq. ft.
	d) Finishing Dept.	:	224 sq. ft.
	e) Finished material store	:	224 sq. ft.
	f) Administrative Office	:	224 sq. ft.
	g) R&D. and Sample Display room	:	224 sq. ft.
3.	Plant & Machinery	:	28.75
4.	Electrical Fittings	:	3.00
	(Furniture/Office equipments, Fire fighting equipments)		
5.	Misc. fixed office assets	:	2.00
6.	Pre-operative expenses.	:	3.45
	(5% of project cost)		
	(map, project, insurance, erection & regd. etc.)		
7.	Working capital margin	:	3.88
	( 25% of working capital)		

---

Total Project Cost in Rs. : 68.60 lakh

---



## CHAPTER – 7

### EXPENDITURE DETAILS

The Expenditure details consist of raw-material requirement, working capital requirement, term loan interest, power cost, cost of consumables/stores/maintenance etc.

#### 1. Raw-material requirement

- a) Wt. of warp of 2/56Nm/day/loom:  $\frac{(40 \times 56)80' \times 19 \times 2.54 \text{cm} \times 1.02 \times 1.05}{100 \times 1000 \times 28} = 3.30 \text{ kgs}$   
(2 % waste and 5% shrinkage)
- b) Wt. of weft of 48Nm./ day/ loom:  $\frac{(80 \times 80 \times 40)19 \times 2.54 \text{cm} \times 1.02 \times 1.05}{100 \times 1000 \times 48} = 2.76 \text{ kgs}$   
(2 % waste and 5% shrinkage)
- c) Total warp(2/56 Nm woollen yarn) : 1182.00kgs  
required/annum of 358 days / loom
- d) Total weft(48 Nm woollen yarn) : 988.00kgs  
required/annum of 358 days/ loom
- e) Cost of total warp @ Rs. 520/- per kg : Rs. 6.15 lakh  
per loom / annum
- f) Cost of total weft @ Rs. 450/- per kg : Rs. 4.45 lakh  
per loom / annum
- g) Total cost of raw-material required : Rs.84.80 lakh  
per annum for 8 looms.

**2. Working capital requirement (for 8 loom)**

- a) Cost of warp yarn requirement for 30 days :  $3.30 \times 8 \times 30 \times 520 = \text{Rs.}4.12$   
lakh
- b) Cost of weft yarn requirement for 30 days :  $2.76 \times 8 \times 30 \times 450 = \text{Rs.}2.98$   
lakh
- c) Cost of finished stock for 15 days :  $152 \times 15 \times 350 = \text{Rs.}7.98$   
lakh
- d) Cost of consumables stores/month for 8 looms : Rs.2000/-
- e) Cost of maintenance and spares/month for 8 looms : Rs.4000/-
- f) Cost of packing material/month : Rs.16,000/-  
( @ 1 % on sales value)
- g) Cost of transport,insurance & misc.expdt./month : Rs.16,000/-  
@ 1 % on sales value
- h) Maintenance of Office equipments/month : Rs. 5000/-
- i) Total working capital required/month (a to h) : Rs. 15.51 lakh
- j) Margin money @ 25 % of working capital : Rs. 3.88 lakh
- k) Bank finance required for working capital (i- j) : Rs.11.63 lakh
- l) Bank interest on working capital @ 12 % : Rs. 1.40 lakh/annum

**3. Means of Finance**

a)	Promoter's contribution ( 20.55 % )	:	Rs.14.10 lakh
b)	Term Loan	:	Rs.54.50 lakh
			-----
	Total	:	Rs.68.60 lakh
			-----

**4. Power cost (At the rate of Rs. 4.32 per unit of PSEB)**

<u>S.No.</u>	<u>Item</u>	<u>Nos.</u>	<u>Total h.p</u>	<u>Units/day</u>	<u>Total Power cost/year</u>
				(H.P.x 0.75x24)	
1.	Jacquard P/loom	8	16(2/m/c)	288	Rs. 4.45 lakh
2.	Pirn winding M/c. (16 spindle)	1	1	18	Rs. 0.28 lakh
3.	Sectional Warping and Beaming m/c	1	15 (25%out.)	68	Rs. 1.05 lakh
4.	Lighting/ Humidification Plant etc.	--	50units	50	Rs. 0.77 lakh
-----					
Total					Rs. 6.55 lakh
-----					

**5. Salaries & Wages**

<u>S.No.</u>	<u>Description</u>	<u>Nos./day</u>	<u>Salary/Wage/month/person</u>	<u>Total/annum</u>
1.	Production/Factory Manager	1	20,000	2.40
2.	Sales Manager	1	20,000	2.40
3.	Supervisor	4	5000	2.40
4.	Weaver	14	4000	6.72
5.	Helper	4	3000	1.44
6.	Warper/Beamer	2	3000	0.72
7.	Pirn winder	4	3000	1.44
8.	Finished Material Checker	1	5000	0.60
9.	Packer	3	3000	1.08
10.	Office clerk	1	4000	0.48
11.	Watchman	4	3000	1.44
-----				
<b>Total :-</b>		<b>39</b>		<b>22.56</b>
-----				

**6. Details of Plant & Machinery**

<u>Description</u>	<u>Unit Price</u>	<u>No.of M/C.</u>	<u>Total cost (Rs.Lakh)</u>
a) Semi-auto loom of 182 cm x 4/1	58,000/-	8	4.64
b) Jacquard(900 hooks)	45,000/-		3.60
c) Standard accessories	40,000/-		3.20
d) Auto-Pirn winding machine of 16 spindles(2 spd/loom)	112,000/-	1	1.12
e) Sectional Warping&Beaming M/c.	9,50,000/-	1	9.50
f) Warp Tying M/c.	4,50,000/-	1	4.50
D.G. Set of 25 KW.	2,00,000/-	1	2.00
Humidification Fan and Pumps etc.	4750/-	4	0.19
			-----
			Total Rs. 28.75
			-----

**7. Depreciation of Plant & Machinery(15 %)**

<u>Year</u>	<u>Opening Balance</u>	<u>Depreciation</u>	<u>Closing Balance</u>
1.	28.75	4.31	24.44
2.	24.44	3.67	20.77
3.	20.77	3.12	17.65
4.	17.65	2.65	15.00
5.	15.00	2.25	12.75
6.	12.75	1.91	10.84
7.	10.84	1.63	9.21
8.	9.21	1.38	7.83
9.	7.83	1.17	6.66
10.	6.66	1.00	5.66

**8. Interest and Installment Schedule of Payment of Term Loan**

The term loan amount will be Rs.50.09 lakh out of term loan estimate of Rs.54.50 lakh after adjusting Capital Subsidy of Rs.4.41 lakh @ 20 % of total value of eligible machinery cost of Rs.22.06 lakh, as per the TUF Scheme of Min. of Textiles, GOI for SSI Powerloom units.

S.No.	Particulars	Operating years – Rs. in lakh						
		1	2	3	4	5	6	8
	Ist – Quarter							
1	Opening Balance	50.09	50.09	42.93	35.77			
2	Less : Quarterly Installment		1.79	1.79	1.79			
3	Quarterly closing balance		48.30	41.14	33.98			
4	Quarterly Interest @ 10 %	1.25	1.25	1.07	0.89			
	IInd – Quarter							
1	Opening Balance	50.09	48.30	41.14	33.98			
2	Less : Quarterly Instalment		1.79	1.79	1.79			
3	Quarterly closing balance		46.51	39.35	32.19			
4	Quarterly Interest @ 10 %	1.25	1.21	1.03	0.85			

	<b>IIIrd – Quarter</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>8</b>
1	Opening Balance	50.09	46.51	39.35	32.19			
2	Less : Quarterly Installment		1.79	1.79	1.79			
3	Quarterly closing balance		44.72	37.56	30.40			
4	Quarterly Interest @ 10 %	1.25	1.16	0.98	0.80			
	IVth – Quarter							
1	Opening Balance	50.09	44.72	37.57	30.40			
2	Less : Quarterly Installment		1.79	1.79	1.79			
3	Quarterly closing balance		42.93	35.77	28.61			
4	Quarterly Interest @ 10 %	1.25	1.12	0.94	0.76			
	Annual Installments	0.00	7.16	7.16	7.16			
	Annual Interest	5.00	4.74	4.02	3.30			

**9. Factors of Production and Costing per Annum**

**1) Sales Realisation**

a) Production/annum	:	54416 shawls on 8 Power looms
b) Selling price per shawl	:	Rs. 350/-
c) Income by sales	:	Rs.190.45 lakh

**2) Variable Cost Factor per Annum :-**

a) Cost of packing @ 1 % on sales value	:	Rs.1.91 lakh/annum.
b) Cost of consumables for 8 looms @ Rs. 2000/- per month	:	Rs.0.24 lakh/annum.
c) Transportation,Insu.& other misc expenditure @ 1 % on sales value	:	Rs.1.91 lakh/annum.
d) Finishing charges @ Rs.20.00 per shawl (checking, clipping,fringing,cutting &finishing etc.)	:	Rs.10.88 lakh/annum.
e) Selling expenses @ 2 % on sales value	:	Rs.3.81 lakh/annum.

**3) Fixed Cost Factor per Annum :-**

a) Maintenance and spares for 8 looms @ Rs. 4000/- per month	:	Rs. 0.48 lakh/annum.
b) Maintenance of office equipments @ Rs.5000/- per month	:	Rs. 0.60 lakh/annum

**Estimates of Cost of Production :-**

S.No.	Particulars	Operating years – Rs. in lakhs				
		1	2	3	4	5
<b>Factors of Production</b>						
1	Installed Looms	8	8	8		
2	Capacity utilisation	80%	80%	80%		
3	Estimated production of shawls/day	152	152	152		
4	Estimated production of shawls/annum	54416	54416	54416		
5	Sales Realization/annum @ Rs.350/- per shawl(Rs. in lakh)	190.45	190.45	190.45		
<b>Factors of Costing ( Expenditure)</b>						
1	Raw material	80.80	80.80	80.80		
2	Cost of packing	1.91	1.91	1.91		
3	Cost of consumables	0.24	0.24	0.24		
4	Cost of Maintenance and spares	0.48	0.48	0.48		
5	Cost of maintenance of Office equipment	0.60	0.60	0.60		
6	Transportation, Ins. & other misc expenses	1.91	1.91	1.91		
7	Power cost	6.55	6.55	6.55		
8	Salaries&Labour wages(3%growth)	22.56	23.24	23.94		
9	Finishing charges	10.88	10.88	10.88		
10	Selling expenses	3.81	3.81	3.81		
	<b>Total</b>	<b>133.74</b>	<b>134.42</b>	<b>135.12</b>		
1	Gross Profit	56.71	56.03	55.33		
2	Depreciation	4.31	3.67	3.12		
3	Term Loan Payment	7.16	7.16	7.16		
4	Bank Interest on Term loan	5.00	4.74	4.02		
5	Bank Interest on working capital	1.40	1.40	1.40		
6	Operative profit (profit before tax)	38.84	39.06	39.63		
7	Taxation (30 %)	11.65	11.72	11.89		
	<b>Net Profit</b>	<b>27.19</b>	<b>27.34</b>	<b>27.74</b>		



**11. Break-Even Point Analysis.**

Break Even Point indicates the level of production which is necessary to avoid losses.

S.No.	Variable cost	Rs. in lakh.
1	Raw material	80.80
2	Wages & salaries (50%)	11.28
3	Interest on working capital	1.40
4	Packing expenses	1.91
5	Cost of consumable	0.24
6	Transportation, Insurance & misc expenses	1.91
7	Finishing charges	10.88
8	Selling expenses	3.81
9	Power cost	6.55
	<b>Total</b>	<b>122.78</b>
	<b>Fixed Cost</b>	
1	Wages & Salaries (50%)	11.28
2	Spares & Maintenance of M/cs and Office	1.08
3	Depreciation	4.31
4	Term loan repayment	7.16
5	Interest on term loan	5.00
	<b>Total</b>	<b>28.83</b>

A. Income by sales : Rs. 190.45 lakh

B. Sales — Variable cost : 190.45 – 122.78 = 67.67 ( contribution)

**11 (A). Break – Even Point:**  $\frac{\text{Fixed cost}}{\text{Sales} - \text{Variable cost}} \times 100$  (Utilization)

$$= \frac{28.83}{190.45 - 122.78} \times 100$$

$$= 43.24\%$$

11 (B).Cash Break – Even Point :  $\frac{\text{Fixed Cost} - \text{Depreciation}}{\text{Sales} - \text{Variables}} \times 100$  (Utilization)

$$= \frac{28.83 - 4.31}{67.67} \times 100$$

$$= 36.23\%$$

**Profit Statement ( Rs. Lakh ) :-**

<b>Sr. No.</b>	<b>Category / Year</b>	<b>1</b>	<b>2</b>	<b>3</b>
1.	Income	190.45	190.45	190.45
2.	Expenditure	133.74	134.42	135.12
3.	Net Profit	27.19	27.34	27.74
4.	Depreciation	4.31	3.67	3.12
5.	Cash Profit (3+4)	31.50	31.01	30.86

**13. Debt Service Coverage Ratio (DSCR) :-**

This ratio indicates the capacity of the unit to repay term loan and interest.

<b>Sr. No.</b>	<b>Category / Year</b>	<b>1</b>	<b>2</b>	<b>3</b>
a.	Cash Profit	31.50	31.01	30.86
b.	Interest on Term Loan	5.00	4.74	4.02
c.	Instalment	7.16	7.16	7.16
d.	DSCR	3.00	3.00	3.12

$$\text{DSCR} = \frac{a+b}{c+b} = \frac{\text{Cash Profit} + \text{Interest on Term Loan}}{\text{Instalment} + \text{Interest on Term Loan}}$$

14. Internal Rate of Return (IRR) / Pay Back Period :-

Pay back period is the length of period for total cash inflow to recover the entire cost of project.

The IRR is the rate of return on the investment, which equates the present value of investment (cash outflow), to the present value of benefits (cash inflow) over the period.

$$\text{Project cost} = \frac{\text{Cash profit}}{(1+R)} + \frac{\text{Cash profit}}{(1+R)} + \frac{\text{Cash Profit}}{(1+R)} \quad n_1 \quad n_2 \quad n_3$$

R=Internal rate of return

n= Number of years

$$\begin{aligned} 68.60 &= \frac{31.50}{(1+17\%)^1} + \frac{31.01}{(1+17\%)^2} + \frac{30.86}{(1+17\%)^3} \\ &= 26.92 + 22.64 + 19.29 \\ &= 68.85 \end{aligned}$$

I.R.R. = 17% over three years.

15. Expenditure & Profit per Shawl

a) Turn over/annum	:	Rs. 190.45 lakh
b) Expenditure	:	Rs. 133.74 lakh
c) Gross profit	:	Rs. 56.71 lakh
d) Net profit	:	Rs. 27.19 lakh
e) Profit/Shawl	:	<b>Rs. 49.97</b>

**CHAPTER - 8**

**CONCLUSION**

Amritsar is well connected by G.T.Road and Train with all the major cities of the country. Amritsar is also having International Air Port.

Amritsar in the Punjab State is an ideal location for the manufacture of Woolen shawls and the product has better marketability in the state of Punjab, Himachal Pradesh, Haryana, Jammu & Kashmir, Delhi and Uttaranchal. It is to mention that major Powerloom Units in Amritsar are having 4 to 8 powerlooms under SSI sector and are manufacturing mainly Woolen items. This Project proposal for the manufacture of Woolen shawls on 8 semi-auto jacquard powerlooms is viable for small scale sector Powerloom Units. The SSI entrepreneurs can take the benefit of 20 % capital subsidy on the investment of machinery under Technology Up gradation Fund Scheme.