

**15. PROFILE ON PRODUCTION OF BED
COVER, BED SHEETS AND
TABLE LINEN**

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I. SUMMARY

This profile envisages the establishment of a plant for the production of bed sheets, bed covers and table linen with a capacity of 50,000 pairs, 25,000 pieces and 25,000 pieces, respectively per annum.

The present demand for the proposed product is estimated at 2.7 million pairs of bed sheets, 1.48 million pieces of bed covers and 12,532 pieces of table linen per annum. The demand is expected to reach at 5.77 million pairs for bed sheets, 3.3 million pieces for bed cover and 23,075 pieces for table linen by the year 2017.

The plant will create employment opportunities for 42 persons.

The total investment requirement is estimated at Birr 1.65 million, out of which Birr 611,600 is required for plant and machinery.

The project is financially viable with an internal rate of return (IRR) of 21% and a net present value (NPV) of Birr 766,240 discounted at 8.5 %.

II. PRODUCTION DESCRIPTION AND APPLICATION

Bed sheet is bed cloth made of textile fabric, usually dressed over bed mattress and underneath blanket. Bed sheets are widely used in bed during sleep.

Bed covers are sheets of textile fabric used for the purpose of covering the blanket. It can be prepared with decorations made out of designs to provide it with attractive aesthetic look. Bed covers are made from cotton, polyester or a blend of cotton and polyester. They are designed in a manner to cover the whole of the blanket excluding the pillow case.

Bed covers are available in exciting designs in different colours, shapes and sizes. They can be custom made in different styles to fit different types of beds. Their design can be embroidered, quilted or adorned with different ornamental touches.

Table linen is a material made of nylon fabrics (usually dyed) with some coloring materials applied on it. It is used to cover table tops.

III. MARKET STUDY AND PLANT CAPACITY

A. MARKET STUDY

1. Past Supply and Present Demand

A bed cover is a fabric usually decorated one worn on the bed over the blanket while bed sheets or bed spreads are used on a bed inside blankets. Table linen is a cover for tables.

Bed covers and table linen are mostly made from synthetic fabrics while the most preferable bed sheets are 100% cotton.

Bed sheets or bed spreads are preferred to have the required size, color and design although consumers are mainly interested on the price since colors and sizes are almost standardized.

Bed covers and table linen are designed to have good designs decorative enough to enhance the image of the house.

All the three products are supplied to the market from overseas and local sources. Bed spreads/sheets are mainly produced in textile mills domestically while bed covers and table linens are made at small scale tailors who convert fabrics into a decorative, embroidery bed covers and table linens.

Even though there is a significant volume of local supply by small producers and individuals, imported products of the three items as depicted in Table 3.1 are very high opening an opportunity for growth in the local manufacturing of these items.

Applying a trend analysis on the data set for bed covers/bed linen (Y_1), bed spreads/sheets (Y_2) and table linen (Y_3), the following least square equations are revealed:

$$Y_1 = 107,705 X_1 - 239,448, \quad R_1^2 = 81.94\%$$

$$Y_2 = 100,498 X_2 - 291,152, \quad R_2^2 = 65.66\%$$

$$Y_3 = 1,054.3 X_3 + 934.87, \quad R_3^2 = 72.83\%$$

All the three products import data sets indicate a significant positive relationship with time. The current effective demand for bed covers/linen, bed spreads/sheets and table linens is, therefore, estimated at 945,307 kg, 814,326 kg and 12,532 kg respectively. The Customs Authority net weight statistics includes the first and second packaging weights, thus in order to get the weight of the product only a conversion rate which includes the first and second packaging weights per unit are considered.

Assuming a unit conversion rate of average 350 gm/m², 550 gm/m² and 200 gm/m² for bed sheets, bed covers and table linens, respectively the current effective demand for the three products is estimated at 2,700,877 pairs of bed sheets, 1,480,593 pcs of bed covers and 12,532 pcs of table lines.

Table 3.1**IMPORTED BED SPREADS, BED LINENS AND TABLE LINENS IN KG**

Year	Bed Spreads	Bed Linen	Table Linen
1997	39,297	41,311	742
1998	11,213	31,588	2,106
1999	10,119	75,122	3,178
2000	57,639	112,952	4,144
2001	79,222	170,791	9,692
2002	78,124	270,087	10,727
2003	234,403	480,279	8,854
2004	255,832	613,036	8,882
2005	696,861	566,908	9,695
2006	1,153,178	1,167,231	9,314

Source: Customs Authority

2. Projected Demand

Comfortable bed and bedding attributes to good health and well being. Better bedding results in relaxed feeling. Bed sheets and bed spreads are bedding items provided with different bed sizes. Cotton bed sheets are all-natural fiber and will naturally absorb moisture of skin keeping the body cool. Polysatins are not the best choice of bed sheets since they are cool at first but quickly warm. Table linen of synthetic fibers and mixes are more suitable for decorative purposes and durability.

The demand for bed sheets and bed covers is directly related to the number of beds and consumption rate. Urban dwellers used bed sheets and bed covers depending on their income while in rural areas usage of bed sheets and bed covers is limited. Table linens are also urban household items. For the purpose of this study the demand for bed sheets,

bed covers and table linens is projected based on the supply of these products, particularly that of imported ones. Thus, the demand projected for those products is made based on the least square equations applied in the estimation of the current effective demand for each particular product. Projected demand for bed sheets, bed covers and Table linens is presented in Table 3.2.

Table 3.2
PROJECTED DEMAND FOR BED SHEETS, BED COVERS AND TABLE
LINEN

Year	Bed Sheets (Pair)	Bed Linen (pcs)	Table Linen (pcs)
2008	3,008,606	1,663,316	13,586
2009	3,316,334	1,846,040	14,641
2010	3,624,063	2,028,764	15,695
2011	3,931,791	2,211,487	16,749
2012	4,239,520	2,394,211	17,804
2013	4,547,249	2,576,935	18,858
2014	4,854,977	2,759,658	19,912
2015	5,162,706	2,942,382	20,967
2016	5,470,434	3,125,105	22,021
2017	5,778,163	3,307,829	23,075

3. Pricing and Distribution

The price of largest size bed sheet produced by Kombolcha Textiles is Birr 87 while average price of imported bed covers is Birr 35. An average table linen price per piece is Birr 25. Recommended prices for the new project is, therefore, Birr 60, 25 and 15, respectively. Distribution of products under study will be handled through wholesalers who are experienced in the distribution of these products as well as consignment sales in retail shops.

B. PLANT CAPACITY AND PRODUCTION PROGRAMME

1. Plant Capacity

The envisaged plant is intended to produce bed sheets, bed cover with stitched decorative designs and table cover made of linen. For the purpose of this project, the envisaged plant will produce bed cover of about 3m², bed sheet of 4.4 m² and table linen of 0.75 m² decorated with attractive designs.

Accordingly the plant will produce 50,000 pairs of bed sheets from cotton fabrics of different colours, 25,000 pieces of bed covers having different designs and acceptable quality, and 25,000 pieces of table cover made of linen, but properly dyed & decorated with designs.

The plant will operate single shift of 8 hours a day and for 300 days a year. Production can be increased if the plant operates double shift for 16 hours a day, and for 300 days a year.

2. Production Programme

The plant will start operation at 75% of its capacity during the first year of production. It will then raise its production to 85% in the second year, and then to 100% in the third year and then after.

Table 3.3

PRODUCTION PROGRAMME

Year	Capacity	Production		
	Utilization (%)	Bed Sheets (pairs)	Bed Cover (pcs)	Table Linen (pcs)
1	75	37,500	18,750	18,750
2	85	42,500	21,250	21,250
3 and above	100	50,000	25,000	25,000

IV. MATERIALS AND INPUTS

A. RAW & AUXILIARY MATERIALS

The major raw materials required for the production of the items indicated above are dyed cotton fabrics, nylon fabrics and sewing thread of various colours.

Auxiliary materials include: dye stuffs and colouring materials, packing materials and other inputs. Annual requirement at full capacity production is given in Table 4.1 below.

Table 4.1
RAW AND AUXILIARY MATERIALS AND COST

Sr No.	Description	Qty	Cost ('000 Birr)		
			FC	LC	TC
	<u>A. Raw Materials</u>				
1	Dyed cotton fabrics (m ²)	375,000	-	2,437.5	
2	Dyed nylon fabrics (m ²)	75,000	-	585.0	
3	Sewing thread	Lumpsum	-	75	
	Sub-total	-	-	3,097.50	
	<u>B. Auxiliary Materials</u>				
1	Dye stuffs & colouring materials	Lumpsum	-	120	120
2	Packing material	Lumpsum	-	50	50
3	Other inputs	Lumpsum	-	20	20
	Total Cost	-	-	3,287.50	3,287.50

B. UTILITIES

Electricity and water are the major inputs to the plant. Annual expenditure on electricity at the rate of Birr 0.474 per kWh is estimated to be Birr 10,000. Annual water consumption is Birr 1000. Total utility cost will then be Birr 11,000.

V. TECHNOLOGY AND ENGINEERING

A. TECHNOLOGY

1. Production Process

The production of bed sheets, bed covers and table linen involves such activities like cutting, sewing, pattern making, designing, dyeing, drying and packing. These activities are simple and can be mastered in very short time.

2. Source of Technology

The technology of sewing and production of items indicated above can be carried out by simple sewing machines.

Address of machinery supplier is given below.

Orients Steel and Industries Ltd.

1009, Ansal Bhavan,

Kasturba Gandhi Marg,

New Delhi 11001

India

B. ENGINEERING**1. Machinery and Equipment**

Table 5.1 below presents the required machinery and equipment and corresponding cost for the envisaged plant.

Table 5.1**LIST OF MACHINERY AND EQUIPMENT REQUIREMENT AND COST**

Sr No.	Description	Qty	Cost ('000 Birr)		
			FC	LC	TC
1	Sewing machine (Industrial type)	20	200.00	-	200.00
2	Flat bed, bottom top and bottom covering stitch machine	5	76.75	-	76.75
3	High speed 1 – needle cylinder, bed lock stitch	2	56.00	-	56.00
4	Portable steam iron	10	2.5	-	2.5
5	Scissors	10	-	0.10	0.10
6	Tables	5	-	1.25	1.25
7	Other equipment (small generator; dyeing and drying unit; cleaning and pumping unit)	Reqd	-	200	200
	Sub-Total	-	335.25	201.35	536.60
	Bank, customs, Insurance & freight costs		-	75	75
	Total Cost		335.25	276.35	611.60

2. Land, Building and Civil Works

The total land requirement for the envisaged plant is estimated to be 500 m². Land lease value for 80 years of land holding will therefore be Birr 40,000. Built-up area for offices and production hall is estimated at 300 m². At the rate of Birr 1,500 per m², the investment cost on building will be Birr 450,000. Thus, the total investment cost on land, building and civil works will be Birr 490,000.

3. Proposed Location

Location of a plant is determined on the basis of proximity to raw materials, availability of infrastructure and distance to potential market outlets. Potential woredas identified for this project are Lemo and Sodo zuria. The woreda selected is Dalle. Therefore, the plant will be located in Yirg Alem town.

VI. MANPOWER AND TRAINING REQUIREMENT

A. MANPOWER REQUIREMENT

Manpower is required both for administration and production works. The list of manpower, including the monthly and annual salaries are given in Table 6.1.

B. TRAINING REQUIREMENT

Skill up-grading training is required for equipment operators for a period of two weeks. A total of Birr 5,000 is earmarked for carrying out the training programme.

Table 6.1
MANPOWER REQUIREMENT & ANNUAL LABOUR COST

Sr. No.	Job Position	No. Req.	Monthly Salary (Birr)	Annual Salary (Birr)
	<u>A. Administration</u>			
1	Plant manager	1	1,5000.00	18,000.00
2	Secretary	1	400.00	4,800.00
3	Sales person	1	500.00	6,000.00
4	Stores keeper	1	500.00	6,000.00
5	Clerk	1	350.00	4,200.00
6	General services	3	200.00	7,200.00
	Sub-total	8		
	<u>B. Production</u>			
1	Production head	1	1,000.00	12,000.00
2	Operators	27	500.00	162,000.00
3	Helpers	5	200.00	12,000.00
4	Designer	1	700.00	8,400.00
	Sub-total	34		194,400.00
	Workers Benefit	-	-	60,150.00
	Training cost	-	-	5,000.00
	Total Cost	42	-	305,750.00

VII. FINANCIAL ANALYSIS

The financial analysis of the bed sheets, bed covers and table linen project is based on the data presented in the previous chapters and the following assumptions:-

Construction period	1 year
Source of finance	30 % equity
	70 % loan
Tax holidays	3 years
Bank interest	8.5 %
Discount cash flow	8.5 %
Accounts receivable	30 days
Raw material local	30 days
Work in progress	2 days
Finished products	30 days
Cash in hand	10 days
Accounts payable	30 days

A. TOTAL INITIAL INVESTMENT COST

The total investment cost of the project including working capital is estimated at Birr 1.65 million, of which 23 per cent will be required in foreign currency.

The major breakdown of the total initial investment cost is shown in Table 7.1.

Table 7.1
INITIAL INVESTMENT COST

Sr. No.	Cost Items	Total Cost (‘000 Birr)
1	Land lease value	40.0
2	Building and Civil Work	450.0
3	Plant Machinery and Equipment	611.6
4	Office Furniture and Equipment	35.0
5	Pre-production Expenditure*	159.4
6	Working Capital	319.8
	Total Investment cost	1,615.8
	Foreign Share	23

* *N.B Pre-production expenditure includes interest during construction (Birr 98.49 thousand) training (Birr 5 thousand) and Birr 55.91 thousand costs of registration, licensing and formation of the company including legal fees, commissioning expenses, etc.*

B. PRODUCTION COST

The annual production cost at full operation capacity is estimated at Birr 3.77 million (see Table 7.2). The material and utility cost accounts for 87.51 per cent, while repair and maintenance take 0.13 per cent of the production cost.

Table 7.2**ANNUAL PRODUCTION COST AT FULL CAPACITY ('000 BIRR)**

Items	Cost	%
Raw Material and Inputs	3,287.50	87.22
Utilities	11	0.29
Maintenance and repair	5	0.13
Labour direct	254.55	6.75
Administration Costs	46.2	1.23
Total Operating Costs	3,604.25	95.63
Depreciation	99.34	2.64
Cost of Finance	65.48	1.74
Total Production Cost	3,769.07	100

C. FINANCIAL EVALUATION**1. Profitability**

According to the projected income statement, the project will start generating profit in the first year of operation. Important ratios such as profit to total sales, net profit to equity (Return on equity) and net profit plus interest on total investment (return on total investment) show an increasing trend during the life-time of the project.

The income statement and the other indicators of profitability show that the project is viable.

2. Break-even Analysis

The break-even point of the project including cost of finance when it starts to operate at full capacity (year) is estimated by using income statement projection.

$$\text{BE} = \frac{\text{Fixed Cost}}{\text{Sales} - \text{Variable Cost}} = 30 \%$$

3. Pay Back Period

The investment cost and income statement projection are used to project the pay-back period. The project's initial investment will be fully recovered within 5 years.

4. Internal Rate of Return and Net Present Value

Based on the cash flow statement, the calculated IRR of the project is 21 % and the net present value at 8.5 % discount rate is Birr 766,240.

D. ECONOMIC BENEFITS

The project can create employment for 42 persons. In addition to supply of the domestic needs, the project will generate Birr 439,320 in terms of tax revenue. The establishment of such factory will have a foreign exchange saving effect to the country by substituting the current imports.