

**30. PROFILE ON SHAWALS, MUFFLERS,  
MANTILAS AND VEILS**

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## **I. SUMMARY**

This profile envisages the establishment of a plant for the production of scarves, mufflers, mantilas and veils with a capacity of 111,333 dozens or 334 tonnes.

The major raw material required is cotton yarn which is locally available.

The present demand for the proposed product is estimated at 842,592 dozens per annum. The demand is expected to reach 1.37 million dozens by the year 2018.

The total investment requirement is estimated at about Birr 7.41 million, out of which Birr 1.30 million is required for plant and machinery. The plant will create employment opportunities for 64 persons.

The project is financially viable with an internal rate of return (IRR) of 24.41 % and a net present value (NPV) of Birr 5.92 million, discounted at 8.5%.

The project has a backward linkage effect with the textile industry. The establishment of such factory will have a foreign exchange saving effect to the country by substituting the current imports.

## **II. PRODUCT DESCRIPTION & APPLICATION**

A shawl is a simple item of clothing, loosely worn over the shoulders, upper body and arms, sometimes also over the head. It is usually a rectangular or square piece of cloth, often folded to make a triangle, but can also be triangular in shape at the beginning. Other shapes include oblong shawls.

Shawls are used in order to keep warm, to complement a costume, and for symbolic reasons. To day, shawls are worn for added warmth (and fashion) at outdoor or indoor

evening affairs where the temperature is warm enough for men in wool suits but for women are dresses and where a jacket might be inappropriate.

A veil is an article of clothing, worn almost exclusively by women, that is intended to cover some part of the head or face. As a religious item, it is intended to show honor to an object or space.

A mantilla is a light weight lace or silk scarf worn over the head and shoulders, after over a high comb, by women.

### III. MARKET STUDY AND PLANT CAPACITY

#### A. MARKET STUDY

##### 1. Past Supply and Present Demand

Shawls, mantillas and veils are fabrics mainly worn by women around the shoulder, head and face. Ethiopia imports a variety of the products made of silk, wool and synthetic fibers. Import of the products for the past seven years is shown in Table 3.1.

**Table 3.1**  
**IMPORT OF SHAWLS, MANTILLAS & VEILS**

Year	Quantity (Number)	Quantity (kg)
2000	1,932,946	369,518
2001	5,059,624	542,424
2002	4,082,270	390,360
2003	9,880,540	649,147
2004	12,052,575	596,685
2005	6,200,241	1,791,708
2006	9,260,406	1,355,125

*Source: - Compiled from Customs Authority.*

Although import is generally rising in the past seven years it is characterized by fluctuations from year to year. The imported quantity during the period 2000-2002 was in the range of 2 million to 5 million in number. During the period 2003-2006 the imported quantity was between 6.2 million and 12 million in number.

Due to absence of a trend in the data the recent three years average i.e. 2004-2006 is assumed to reflect the effective demand for the year 2006. This is found to be 9,171,074 which is very near to the actual imported quantity of year 2006. Assuming urban population growth and income rise to influence the demand for the products a 5% growth rate is applied to arrive at the current (2008) demand. Accordingly, current demand is estimated at 10,111,109 or 842,592 dozens.

## **2. Projected Demand**

The demand for the products is mainly influenced by urban population and income rise. Urban population is growing by about 4% while GDP is forecasted to grow by a minimum of 7% per annum. Taking the average of the two a 5% annual growth rate is applied to forecast the future demand. The forecasted demand based on this assumption is presented in Table 3.2.

**Table 3.2****PROJECTED DEMAND FOR SHAWLS, MANTILAS & VEILS (DOZENS)**

<b>Year</b>	<b>Projected Demand</b>
2009	884,722
2010	928,958
2011	975,405
2012	1,024,176
2013	1,075,385
2014	1,129,154
2015	1,185,611
2016	1,244,892
2017	1,307,137
2018	1,372,494

Demand for the products will grow from 884,722 dozens in 2009 to 1,075,385 dozens and 1,372,492 dozens by the year 2013 and year 2018, respectively.

### **3. Pricing and Distribution**

The average CIF price of the product is found to be Birr 7.57 per piece or Birr 90.84 per dozen. Allowing 35% for inland transport, taxes and various charges a factory gate price of Birr 122.63 per dozen is adopted for sales revenue projection.

The product will find its market outlet through the existing textile products distributing enterprises.

## **B. PLANT CAPACITY AND PRODUCTION PROGRAMME**

### **1. Plant Capacity**

Based on the market study above, the envisaged plant will have an annual production capacity of 111,333 dozens of shawls, mantilas and veils. Assuming 250gm/piece, the capacity of the plant becomes 334 tonnes per annum.

The plant will operate a single shift of 8 hour a day for 300 days per year.

### **2. Production Programme**

The proposed plant will commence production at 70% of its full capacity and grow to 85% and 100% capacity in the second and third year and then after, respectively. The production programme is shown in Table 3.3 below.

**Table 3.3**

#### **PRODUCTION PROGRAMME**

<b>Year</b>	<b>1</b>	<b>2</b>	<b>3</b>
Capacity Utilization (%)	70	85	100
Production (tonnes)	234	284	334

## **IV. MATERIALS AND INPUTS**

### **A. RAW MATERIALS**

The raw material required for the manufacture of shawl, veil and mantilla is commonly used cotton yarn. The raw materials are available from the local spinning plants like the Adama spinning plant. The annual requirement of the raw material at full capacity production is 350 ton. Considering the rate of cotton yarn Birr 25,000/ton, the annual raw material cost will be Birr 8.75 million.

The annual requirement of raw material and corresponding estimated cost is indicated in Table 4.1 below.

**Table 4.1**  
**RAW MATERIAL REQUIREMENT AND COST**

Sr. No.	Description	Qty (Tonnes)	Total Cost ('000 Birr)	
			LV	TC
1	Cotton yarn	350	177.00	8,750.00
	<b>Total</b>		<b>177.00</b>	<b>8,750.00</b>

#### **B. UTILITIES**

Electricity and water are inputs required by the envisaged plant. A total of 20kw of electrical power is required and considering 0.65 load factor at 115% ever load factor working 8 hours a day for 300 days a year, the cost of electricity at the rate of Birr 0.4736/kWh will be Birr 16,993.

The annual water requirement is estimated at 500m<sup>3</sup>, and at a rate of Birr 3.25/m<sup>3</sup> will cost Birr 1,625. Hence, the total cost of utilities per annum will be Birr 18,618. The annual consumption is shown in Table 4.2.

**Table 4.2**  
**ANNUAL CONSUMPTION OF UTILITIES AND COST**

Sr. No.	Description	Qty.	Cost (Birr)
1	Electricity (kWh)	35,880	16,993.00
2	Water (m <sup>3</sup> )	500	1,625
	<b>Total</b>		<b>18,618</b>



## **V. TECHNOLOGY AND ENGINEERING**

### **A. TECHNOLOGY**

#### **1. Production Process**

Knitting is done on a flat knitting machine. The needles are mounted in a flat plate or needle bed or in 2 beds at right angles to each other & each at 45<sup>0</sup> angles to the horizontal. The knitted fabric passes downward through the space between the upper edges of the plate, called the throat. In the knitting process, the needles are pushed up and down by cams attached to a carriage with a yarn guide, which moves over the length of the machine. The width of the fabric can be altered by increasing or decreasing the no of active needles, allowing production of shaped fabrics. Although flat bed machines are suited for hand operation, they are power driven in commercial use & by selection of color, type of stitch. Cam design & Jacquard device, almost unlimited variety is possible.

The shawl, mantilla and veil fabrics are cut as per size design. The pieces of required lengths are then pressed and packed. The technological process has no any adverse environmental impact.

#### **2. Source of Technology.**

The machinery for the manufacturing of shawl, mantilla & veil can be obtained from the following manufacturer address:

HAE- YANT KNITTING FACTORY, LTD

213-49, Shindang-dong, chumg-gu

Saul, Korea

Tel: 02-2250-1186

Fax: 02-2250-1180

## B. ENGINEERING

### 1. Machinery and Equipment

The list of machinery and equipment and their respective cost is given in Table 5.1.

**Table 5.1**

**MACHINERY AND EQUIPMENT REQUIREMENT WITH RELATED COST**

Sr. No.	Description	Qty.	Cost ('000 Birr)		
			FC	LC	TC
1	Hand flat knitting machine	20	290.60	72.60	363.20
2	Automatic flat knitting machine	20	857.85	42.89	900.74
3	Over locking machine	6	36.00	7.20	43.20
	<b>Total</b>		<b>1,184.45</b>	<b>122.69</b>	<b>1,307.14</b>

### 2. Land, Building and Civil Works

The envisaged plant requires a total land area of 1000 m<sup>2</sup>. The floor space required for plant building and other facilities will be about 600m<sup>2</sup>. The 600m<sup>2</sup> built up area is further subdivided into 300m<sup>2</sup> area for production hall, 150m<sup>2</sup> for store and office each. The estimated cost building and civil works at the rate of birr 2,300/m<sup>2</sup> is birr 1.38 million.

According to the Federal Legislation on the Lease Holding of Urban Land (Proclamation No 272/2002) in principle, urban land permit by lease is on auction or negotiation basis, however, the time and condition of applying the proclamation shall be determined by the concerned regional or city government depending on the level of development.

The legislation has also set the maximum on lease period and the payment of lease prices. The lease period ranges from 99 years for education, cultural research health,

sport, NGO , religious and residential area to 80 years for industry and 70 years for trade while the lease payment period ranges from 10 years to 60 years based on the towns grade and type of investment.

Moreover, advance payment of lease based on the type of investment ranges from 5% to 10%.The lease price is payable after the grace period annually. For those that pay the entire amount of the lease will receive 0.5% discount from the total lease value and those that pay in installments will be charged interest based on the prevailing interest rate of banks. Moreover, based on the type of investment, two to seven years grace period shall also be provided.

However, the Federal Legislation on the Lease Holding of Urban Land apart from setting the maximum has conferred on regional and city governments the power to issue regulations on the exact terms based on the development level of each region.

In Addis Ababa the City's Land Administration and Development Authority is directly responsible in dealing with matters concerning land. However, regarding the manufacturing sector, industrial zone preparation is one of the strategic intervention measures adopted by the City Administration for the promotion of the sector and all manufacturing projects are assumed to be located in the developed industrial zones.

Regarding land allocation of industrial zones if the land requirement of the project is below 5000 m<sup>2</sup> the land lease request is evaluated and decided upon by the Industrial Zone Development and Coordination Committee of the City's Investment Authority. However, if the land request is above 5,000 m<sup>2</sup> the request is evaluated by the City's Investment Authority and passed with recommendation to the Land Development and Administration Authority for decision, while the lease price is the same for both cases.

The land lease price in the industrial zones varies from one place to the other. For example, a land was allocated with a lease price of Birr 284 /m<sup>2</sup> in Akakai-Kalti and Birr 341/ m<sup>2</sup> in Lebu and recently the city's Investment Agency has proposed a lease price of Birr 346 per m<sup>2</sup> for all industrial zones.

Accordingly, in order to estimate the land lease cost of the project profiles it is assumed that all manufacturing projects will be located in the industrial zones. Therefore, for the this profile since it is a manufacturing project a land lease rate of Birr 346 per m<sup>2</sup> is adopted.

On the other hand, some of the investment incentives arranged by the Addis Ababa City Administration on lease payment for industrial projects are granting longer grace period and extending the lease payment period. The criteria are creation of job opportunity, foreign exchange saving, investment capital and land utilization tendency etc. Accordingly, Table 5.2 shows incentives for lease payment.

**Table 5.2**  
**INCENTIVES FOR LEASE PAYMENT OF INDUSTRIAL PROJECTS**

<b>Scored Point</b>	<b>Grace Period</b>	<b>Payment Completion Period</b>	<b>Down Payment</b>
Above 75%	5 Years	30 Years	10%
From 50 - 75%	5 Years	28 Years	10%
From 25 - 49%	4 Years	25 Years	10%

For the purpose of this project profile the average i.e. five years grace period, 28 years payment completion period and 10% down payment is used. The period of lease for industry is 60 years .

Accordingly, the total lease cost, for a period of 60 years with cost of Birr 346 per m<sup>2</sup>, is estimated at Birr 20.76 million of which 10% or Birr 2,076,000 will be paid in advance. The remaining Birr 18.68 million will be paid in equal installments with in 28 years, i.e., Birr 667,286 annually.

## VI. MANPOWER & TRAINING REQUIREMENT

### A. MANPOWER REQUIREMENT

The total manpower requirement is 64 with annual cost of Birr 543,000. The total number of manpower and estimated annual salaries are presented in Table 6.1.

### B. TRAINING REQUIREMENT

The knitting machine operators and over lock machine operators need of be given one month training on knitting operation and minor repairing and maintenance activities shall be given by the machinery suppliers at the project site during erection period. The training cost is estimated Birr 25,000.

**Table 6.1**  
**MANPOWER REQUIREMENT AND ANNUAL LABOUR COST**

Sr. No.	Description	Req. Nos.	Salary (Birr)	
			Monthly	Annual
1	General Manager	1	3,500	42,000
2	Secretary	1	900	10,800
3	Production & Technical Head	1	2,800	33,600
4	Finance of Administration Head	1	2,800	33,600
5	Accountant	1	1,500	18,000
6	Store man	1	700	8,400
7	Clerks	1	700	8,400
8	Guard	3	1,050	12,600
9	Driver	1	550	6,600
10	Knitting Supervisor	1	1,200	14,400
11	Knitting Operator	20	15,000	180,000
12	Over lock Machine Operator	4	3,000	36,000
13	Assist Knitting Operator	4	2,000	24,000
14	Assistant Over Lock Machine operator	1	500	6,000
<b>Sub-Total</b>		<b>41</b>		<b>434,400</b>
<b>Employee's Benefit (25% Basic Salary)</b>				<b>108,600</b>
<b>Total</b>		<b>64</b>		<b>543,000</b>

## VII. FINANCIAL ANALYSIS

The financial analysis of the scarves, mufflers, mantillas and veil 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
Raw material import	90 days
Work in progress	1 days
Finished products	30 days
Cash in hand	5 days
Accounts payable	30 days
Repair and maintenance	3% of machinery cost

### A. TOTAL INITIAL INVESTMENT COST

The total investment cost of the project including working capital is estimated at Birr 7.41 million, of which 16 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 ( '000 Birr)**

<b>Sr. No.</b>	<b>Cost Items</b>	<b>Local Cost</b>	<b>Foreign Cost</b>	<b>Total Cost</b>
1	Land lease value	2,076.00	-	2,076.00
2	Building and Civil Work	1,380.00	-	1,380.00
3	Plant Machinery and Equipment	122.69	1,184.45	1,307.14
4	Office Furniture and Equipment	100.00	-	100.00
5	Vehicle	450.00	-	450.00
6	Pre-production Expenditure*	481.56	-	481.56
7	Working Capital	1,615.48	-	1,615.48
	<b>Total Investment Cost</b>	<b>6,225.73</b>	<b>1,184.45</b>	<b>7,410.18</b>

\* *N.B Pre-production expenditure includes interest during construction ( Birr 331.56 thousand, training (Birr 25 thousand ) and Birr 125 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 9.97 million (see Table 7.2). The raw material cost accounts for 87.75 per cent of the production cost. The other major components of the production cost are depreciation, financial cost and direct labour which account for 3.31 %, 2.65% and 2.61% respectively. The remaining 3.67 % is the share of utility, repair and maintenance, labour overhead and other administration cost.

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

<b>Items</b>	<b>Cost</b>	<b>%</b>
Raw Material and Inputs	8,750.00	87.75
Utilities	18.62	0.19
Maintenance and repair	65.36	0.66
Labour direct	260.64	2.61
Labour overheads	108.60	1.09
Administration Costs	173.76	1.74
Land lease cost	-	-
<b>Total Operating Costs</b>	<b>9,376.98</b>	<b>94.04</b>
Depreciation	329.71	3.31
Cost of Finance	264.51	2.65
<b>Total Production Cost</b>	<b>9,971.20</b>	<b>100</b>

**C. FINANCIAL EVALUATION****1. Profitability**

Based on the projected profit and loss statement, the project will generate a profit through out its operation life. Annual net profit after tax will grow from Birr 1.16 million to Birr 1.23 million during the life of the project. Moreover, at the end of the project life the accumulated cash flow amounts to Birr 14.65 million.

**2. Ratios**

In financial analysis financial ratios and efficiency ratios are used as an index or yardstick for evaluating the financial position of a firm. It is also an indicator for the strength and weakness of the firm or a project. Using the year-end balance sheet figures and other relevant data, the most important ratios such as return on sales which is computed by



dividing net income by revenue, return on assets ( operating income divided by assets), return on equity ( net profit divided by equity) and return on total investment ( net profit plus interest divided by total investment) has been carried out over the period of the project life and all the results are found to be satisfactory.

### 3. Break-even Analysis

The break-even analysis establishes a relationship between operation costs and revenues. It indicates the level at which costs and revenue are in equilibrium. To this end, the break-even point of the project including cost of finance when it starts to operate at full capacity ( year 3) is estimated by using income statement projection.

$$\text{BE} = \frac{\text{Fixed Cost}}{\text{Sales} - \text{Variable Cost}} = 26 \%$$

### 4. Payback Period

The pay back period, also called pay – off period is defined as the period required to recover the original investment outlay through the accumulated net cash flows earned by the project. Accordingly, based on the projected cash flow it is estimated that the project's initial investment will be fully recovered within 4 years.

### 5. Internal Rate of Return

The internal rate of return (IRR) is the annualized effective compounded return rate that can be earned on the invested capital, i.e., the yield on the investment. Put another way, the internal rate of return for an investment is the discount rate that makes the net present value of the investment's income stream total to zero. It is an indicator of the efficiency or quality of an investment. A project is a good investment proposition if its IRR is greater than the rate of return that could be earned by alternate investments or putting the money

in a bank account. Accordingly, the IRR of this project is computed to be 24.41 % indicating the viability of the project.

## **6. Net Present Value**

Net present value (NPV) is defined as the total present (discounted) value of a time series of cash flows. NPV aggregates cash flows that occur during different periods of time during the life of a project into a common measuring unit i.e. present value. It is a standard method for using the time value of money to appraise long-term projects. NPV is an indicator of how much value an investment or project adds to the capital invested. In principle a project is accepted if the NPV is non-negative.

Accordingly, the net present value of the project at 8.5% discount rate is found to be Birr 5.92 million which is acceptable.

## **D. ECONOMIC BENEFITS**

The project can create employment for 64 persons. In addition to supply of the domestic needs, the project will generate Birr 2.21 million 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. The project has a backward linkage effect with the textile industry