PROFILE ON THE PRODUCTION OF JEANS

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I. SUMMARY

This profile envisages the establishment of a plant for the production of jeans with a capacity of 150,000 pieces or 750 tons per annum. Jeans are now a day's very popular article of casual dress around the world.

The demand for jeans is met through import and domestic production. The present (2012) unsatisfied demand for jeans is estimated at 3,324,161 pieces. The unsatisfied demand for jeans is projected to reach 4,292,506 pieces and 5,908,767 pieces by the year 2017 and 2022, respectively.

The principal raw materials required are fabrics dyed and finished with different colors which have to be imported.

The total investment cost of the project including working capital is estimated at Birr 8.76 million. From the total investment cost the highest share (Birr 4.40 million or 50.18%) is accounted by fixed investment cost followed by initial working capital (Birr 3.41 million or 38.87%) and pre operation cost (Birr 959.42 thousand or 10.95%). From the total investment cost Birr 640.15 thousand or 7.30% is required in foreign currency.

The project is financially viable with an internal rate of return (IRR) of 21.31% and a net present value (NPV) of Birr 5.96 million discounted at 10%.

The project can create employment for 46 persons. The establishment of such factory will have a foreign exchange saving effect to the country by substituting the current imports. The project will also create backward linkage with the textile manufacturing sub sector and also generates income for the Government in terms of tax revenue and payroll tax.

II. PRODUCT DESCRIPTION AND APPLICATION

Jeans is a type of read-made garments made from denim or dungaree cloth. Often the term "jeans" refers to a particular style of pants called "blue jeans". Jeans are now a day's very popular article of casual dress around the world.

III. MARKET STUDY AND PLANT CAPACITY

A. MARKET STUDY

1. Past Supply and Present Demand

The demand for ready-made garments such as Jeans is met through imports and domestic production. Customs data reveals that there has been export of ready-made garments since 2004. Exports, on the average accounted for about 1.4% of domestic production during the period 2004-2011. The total supply of wearing apparel (ready-made garments), i.e. imported and domestically produced garments net of exports, during 2000 - 2011 is depicted in Table 3.1.

Total supply varied from 1,203,936 pieces in 2000 to 16,487,293 pieces in 2008 and averaged 6,397,249 pieces during the period under reference.

Table 3.1

TOTAL SUPPLY OF WEARING APPAREL

(READY MADE GARMENTS)

Year	Import (No.)	Domestic Production (No.)	Exports (No.)	Total Supply (No.)
2000		1,203,936		1,203,936
2001		1,705,992		1,705,992
2002	2,319,973	1,569,024		3,888,997
2003	2,700,127	1,493,124		4,193,251
2004	2,363,265	3,282,504	72,600	5,573,169
2005	4,364,535	2,482,644	97,803	6,749,376
2006	3,397,066	3,327,060	57,305	6,666,821
2007	3,083,376	7,032,900	24,919	10,091,357
2008	3,171,771	13,315,524	2	16,487,293
2009	6,462	14,108,628	2,502	14,112,588
2010	3,365,060		14,251	3,350,809
2011	3,149,911		406,514	2,743,397
Average	**2,792,155**	**4,952,134**	**84,487**	**6,397,249**

***Source**: Report on Large and Medium Scale Manufacturing and Electricity Industries Survey (CSA) for domestic production and Customs Data for imports and exports.*

The country imports a variety of ready-made garments that are made of silk, wool, synthetic fiber etc. Nevertheless, only selected products made of cotton has been analyzed for the purpose of this project. The selected products are:

- Men's or boy's trousers & breeches of cotton,
- Women's or girl's trousers & breeches of cotton,
- Men's or boy's jackets & blazers of cotton,
- Women's or girls jackets & blazers of cotton, and
- Skirts and divided skirts of cotton.

Imports of the above products compiled from the Customs data is presented in Table 3.2.

Table 3.2

IMPORT OF TROUSERS, JACKETS & SKIRTS OF COTTON (NO)

Year	Men's or Boy's Trousers, Breaches of Cotton	Women's or girl's trousers & breeches of cotton	Men's or boy's jackets & blazers of cotton	Women's or girls jackets & blazers of cotton	Skirts and divided skirts of cotton	Total
2002	1,814,506	248,540	241,699	10,692	4,536	2,319,973
2003	1,557,220	573,533	482,125	41,705	45,544	2,700,127
2004	1,529,532	354,137	261,125	37,042	181,429	2,363,265
2005	3,175,735	363,448	7,315	573,232	244,805	4,364,535
2006	2,582,677	112,577	3,846	678,912	19,054	3,397,066
2007	2,471,989	119,147	19,375	456,835	16,030	3,083,376
2008	2,555,796	200,062	17,214	345,055	53,644	3,171,771
2009	2,598,417	122,044	123,075	502,574	330,735	3,268,416
2010	2,641,037	44,026	7,401	660,093	12,503	3,365,060
2011	2,422,750	72,702	8,181	622,117	24,161	3,149,911
Average	**2,334,966**	**221,022**	**106,059**	**392,826**	**63,478**	**3,118,350**

Source: - *Compiled from Ethiopian Revenues & Customs Authority.*

As could be seen from Table 3.2, the total import of Trousers, Jackets and Skirts of Cotton has been generally rising during the period under consideration and stood at 3149911 in 2011. On the average total imports of the products grew at the rate of 6.6% annually during the reference period. On the average, imports of men's or boy's trousers & breeches constituted the overwhelming proportion (about 74.87%) of total imports. Imports of Women's or girl's trousers

& breeches, men's or boy's jackets & blazers, women's or girls jackets & blazers, and skirts and divided skirts on the average accounted for 7.09, 3.4, 12.6 and 2.04 percent of total imports, respectively.

To determine the present unsatisfied demand for the four products under consideration the average import of the period under consideration is first assumed to reflect the demand for the year 2011. Then, an annual average growth rate of 6.6%, which is the observed average annual growth rate during the reference period, is applied to arrive at the year 2012 demand. Thus, the current total unsatisfied demand is estimated at 3,324,161.

The current unsatisfied demand estimated by type of product is worked out by taking their past years share in the total import. Accordingly, the estimated demand for each product will be as follows.

Table 3.3

THE PRESENT UNSATISFIED DEMAND FOR JEANS

Sr. No.	**Type**	**Unsatisfied demand (No.)**
1	Men's or boy's trousers & breeches of cotton,	2488799
2	Women's or girl's trousers & breeches of cotton,	235683
3	Men's or boy's jackets & blazers of cotton,	113021.5
4	Women's or girls jackets & blazers of cotton, and	418844.3
5	Skirts and divided skirts of cotton.	67812.89
	Total	**3324161**

2. Projected Demand

The demand for Jeans is mainly influenced by urban population growth and income rise. Hence, an annual average growth rate of 6.6% is taken to forecast the future unsatisfied demand (see Table 3.4)

Table 3.4

PROJECTED UNSATISFIED DEMAND FOR DIFFERENT TYPES OF JEANS

Year	Men's or Boy's Trousers, Breaches of Cotton	Women's or girl's trousers & breeches of cotton	Men's or boy's jackets & blazers of cotton	Women's or girls jackets & blazers of cotton	Skirts and divided skirts of cotton	Total
2013	2,488,799	235,683	113,022	418,844	67,813	3,324,161
2014	2,653,060	251,238	120,481	446,488	72,289	3,543,556
2015	2,828,162	267,820	128,433	475,956	77,060	3,777,430
2016	3,014,820	285,496	136,909	507,369	82,146	4,026,741
2017	3,213,798	304,339	145,945	540,856	87,567	4,292,506
2018	3,425,909	324,425	155,578	576,552	93,347	4,575,811
2019	3,652,019	345,837	165,846	614,605	99,507	4,877,814
2020	3,893,052	368,662	176,792	655,169	106,075	5,199,750
2021	4,149,994	392,994	188,460	698,410	113,076	5,542,934
2022	4,423,894	418,932	200,898	744,505	120,539	5,908,767

3. Pricing and Distribution

The price of jeans varies according to type such as trouser, jacket skirt etc. For the purpose of financial analysis, an average factory gate price of Birr 120.68 is adopted based on previous estimate for the price of the product and allowing for average annual price rise.

The products can find their market outlet through the existing ready-made garment distributing/ retailing enterprises.

B. PLANT CAPACITY AND PRODUCTION PROGRAMME

1. Plant Capacity

The market study presented above indicates that the projected demand of jeans grows from 3,324,161 year 2013 to 5,908,767 by the year 2022. Jeans can be prepared in different sizes, and are liked by all age groups, including children, adults, men and women. As the size of jeans

differs for different age groups, it would be necessary to take an average size to determine the annual plant capacity. Accordingly, the envisaged plant will have annual production capacity of 750 tons corresponding to an estimated number of 150,000 pieces of jeans. The plant will operate double shift of 16 hours a day, and for 300 days a year.

2. Production Programme

As it is the case for new plant, full capacity production can be attained by starting operations at lower capacity in the initial year, and then building up production in the successive years. Hence, production capacity will start at 75% in the first year, then grow to 85% the second year, and reach of full capacity (100%) in the third year and then after.

Table 3.5

PRODUCTION PROGRAMME

Year	1	2	3
Capacity utilization (%)	75	85	100
Production (pcs)	112500	127500	150,000
Production(tons)	563	638	750

IV. MATERIALS AND INPUTS

A. RAW AND AUXILIARY MATERIALS

The major raw material required for the preparation of jeans is cotton fabrics dyed and finished with different colours. The cotton fabric used for jeans preparation is usually a hard blue cotton twill, also known as denion cloth. This material can either be imported or locally produced and used for this purpose as long as it meets the required quality and specification.

Auxiliary materials consist of thread, zip fasteners, button, labels and packing materials. The annual requirements of raw and auxiliary materials together with costs at full capacity production of jeans production plant is given in Table 4.1.

Table 4.1

RAW AND AUXILIARY MATERIALS REQUIREMENT AND COST

Sr. No.	Description	Qty.	Cost ('000 Birr)		
			FC	LC	TC
	A. Major Raw Material				
1	Denim cloth(m)	187,500	10,875.0	-	10,875.0
	Sub total	**187,500**	**10,875.0**	**-**	**10,875.0**
	B. Auxiliary Materials				
1	Fabric for internal lining	LS	-	18	18.0
2	Thread	Reqd.	-	124	124.0
3	Buttons	LS	-	121	121.0
4	Zip fasteners(pcs)	151,200	230.4	-	230.4
5	Labels, Trade mark(pcs)	151,200	6.6	-	6.6
	Sub-total		**237.0**	**263**	**500.0**
	Bank, insurance, customs, handling costs			1,667	1,667.0
	Total Cost		**11,112.0**	**1,930**	**13,042.0**

B. UTILITIES

Utilities required by the plant consist of electricity and water. Electricity is required for lighting purposes and running production equipment. Water is required for drinking and general purposes. The total annual requirement of utilities is estimated at Birr 52,500 (see Table 4.2).

Table 4.2

TOTAL UTILITY REQUIREMENT AND COST

Utilities	Unit	Qty.	Cost ('000) (Birr)
Electrical Energy	kwh	10,200	59.16
Water	M^3	900	9.00
Total			**68.16**

VI. TECHNOLOGY AND ENGINEERING

A. TECHNOLOGY

1. Production Process

The major unit operations in the production process of jeans are:-

- Raw material checking,
- Masking and lapping of the fabric,
- Cutting and laying of the various pieces,
- Arranging and stitching of the various pieces, and
- Finishing operations.

To start with checking for proper width, color, texture and for possible faults are performed. The fabric is, then, marked with the trace of the cutter and then lapped or folded into several layers depending on the number of pieces needed. The lapping is done either by hand or by using lapping trolley.

The material is, then, cut out, using various types of tools such as sword (long blade), the belt saw or electric knives fitted with disc or vertical blades.

The pieces of material are then arranged and stitched together. Here, sewing machines are used. The finishing operation includes inspection, ironing, folding and packing.

2. Environmental impact assessment

The production process involves masking, cutting, lapping as a major process. Such operations do not have any negative environmental impact.

B. ENGINEERING

1. Machinery and Equipment

Total cost of machinery and equipment is Birr 721,150 of which Birr 640,150 is required in foreign currency. Machinery and equipment required for the production of jeans is shown in Table 5.1.

Table 5.1

MACHINERY AND EQUIPMENT REQUIRED BY JEANS PLANT

Sr. No.	Description	Qty.	Cost ('000 Birr)		
			FC	LC	TC
1	Sewing machine(pcs)	15	558.00	-	558.00
2	Electric knives fitted with Disc	6	46.50	-	46.50
3	Lapping trolley	4.8	31.00	-	31.00
4	Electric iron	12	4.65	-	4.65
5	Other materials	LS	-	16	16.00
	Bank, insurance, freight, customs	-	-	65	65.00
	Total-cost	**-**	**640.15**	**81**	**721.15**

2. Land, Building and Civil Works

The total land area required is 1,000 m^2 of which the built up area is 500 m^2. This is supposed to accommodate production hall, store for raw material and finished products, offices, and general purpose building. Based on a unit area (per m^2) of building cost of Birr 5000, the total building cost will be Birr 2.5 million.

According to the Federal Legislation on the Lease Holding of Urban Land (Proclamation No 721/2004) 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^2, 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^2, 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.

Moreover, the Addis Ababa City Administration has recently adopted a new land lease floor price for plots in the city. The new prices will be used as a benchmark for plots that are going to be auctioned by the city government or transferred under the new "Urban Lands Lease Holding Proclamation."

The new regulation classified the city into three zones. The first Zone is Central Market District Zone, which is classified in five levels and the floor land lease price ranges from Birr 1,686 to Birr 894 per m^2. The rate for Central Market District Zone will be applicable in most areas of the city that are considered to be main business areas that entertain high level of business activities.

The second zone, Transitional Zone, will also have five levels and the floor land lease price ranges from Birr 1,035 to Birr 555 per m^2 .This zone includes places that are surrounding the city and are occupied by mainly residential units and industries.

The last and the third zone, Expansion Zone, is classified into four levels and covers areas that are considered to be in the outskirts of the city, where the city is expected to expand in the future. The floor land lease price in the Expansion Zone ranges from Birr 355 to Birr 191 per m^2 (see Table 5.2).

Table 5.2

NEW LAND LEASE FLOOR PRICE FOR PLOTS IN ADDIS ABABA

Zone	***Level***	***Floor price/m^2***
Central Market District	1st	1686
	2nd	1535
	3rd	1323
	4th	1085
	5th	894
Transitional zone	1st	1035
	2nd	935
	3rd	809
	4th	685
	5th	555
Expansion zone	1st	355
	2nd	299
	3rd	217
	4th	191

Accordingly, in order to estimate the land lease cost of the project profiles it is assumed that all new manufacturing projects will be located in industrial zones located in expansion zones. Therefore, for the profile a land lease rate of Birr 266 per m^2 which is equivalent to the average floor price of plots located in expansion zone 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 criterions are creation of job opportunity, foreign exchange saving, investment capital and land utilization tendency etc. Accordingly, Table 5.3 shows incentives for lease payment.

Table 5.3

INCENTIVES FOR LEASE PAYMENT OF INDUSTRIAL PROJECTS

Scored point	Grace period	Payment Completion Period	Down Payment
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 land lease period for industry is 60 years.

Accordingly, the total land lease cost at a rate of Birr 266 per m^2 is estimated at Birr 266,000 of which 10% or Birr 26,600 will be paid in advance. The remaining Birr 239,400 will be paid in equal installments with in 28 years i.e. Birr 8,550 annually.

NB: The land issue in the above statement narrates or shows only Addis Ababa's city administration land lease price, policy and regulations.

Accordingly the project profile prepared based on the land lease price of Addis Ababa region.

To know land lease price, police and regulation of other regional state of the country updated information is available at Ethiopian Investment Agency's website www.eia.gov.et on the factor cost.

VI. HUMAN RESOURCE AND TRAINING REQUIREMENTS

A. HUMAN RESOURCE REQUIREMENT

The total human resource requirement of the plant, which includes both administration and production workers, is 41 persons. Annual cost of labor is Birr 970,560.details of human resource requirement by type of job and monthly and annual salary is indicated in Table 6.1.

Table 6.1

HUMAN RESOURCE REQUIREMENT AND LABOUR COST

Sr. No.	Description	Qty. (No)	Monthly Salary (birr)	Annual Expenditure (Birr)
1	Plant manager	1	5,000	60,000
2	Secretary	1	1,800	21,600
3	Accountant	1	2,000	24,000
4	Salesman	1	2,500	30,000
5	Clerk	1	1,800	21,600
6	guard	3	2,400	28,800
1	Production supervisor	1	3,000	36,000
2	Skilled workers	24	48,000	576,000
3	Laborers	8	900	10,800
Workers benefit (20% of basic salary)		-	-	161,760
	Total	**41**	**-**	**970,560**

B. TRAINING REQUIREMENT

Training of supervisor and production workers is required to upgrade the skill of jeans production. For this local garment factories can provide the training in their premises. A total of Birr 50,000 is sufficient to under take the training for a period of one month.

VII. FINANCIAL ANALYSIS

The financial analysis of the jeans 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	10%
Discount cash flow	10%
Accounts receivable	30 days
Raw material local	30 days
Work in progress	1 day
Finished products	30 days
Cash in hand	5 days
Accounts payable	30 days
Repair and maintenance	5% of machinery cost

A. TOTAL INITIAL INVESTMENT COST

The total investment cost of the project including working capital is estimated at Birr 8.76 million (See Table 7.1). From the total investment cost the highest share (Birr 4.40 million or 50.18%) is accounted by fixed investment cost followed by initial working capital (Birr 3.41 million or 38.87%) and pre operation cost (Birr 959.42 thousand or 10.95%). From the total investment cost Birr 640.15 thousand or 7.30% is required in foreign currency.

Table 7.1

INITIAL INVESTMENT COST ('000 Birr)

Sr. No	Cost Items	Local Cost	Foreign Cost	Total Cost	% Share
1	**Fixed investment**				
1.1	Land Lease	26.60		26.60	0.30
1.2	Building and civil work	2,500.00		2,500.00	28.53
1.3	Machinery and equipment	81.00	640.15	721.15	8.23
1.4	Vehicles	900.00		900.00	10.27
1.5	Office furniture and equipment	250.00		250.00	2.85
	Sub total	**3,757.60**	**640.15**	**4,397.75**	**50.18**
2	**Pre operating cost ***				
2.1	Pre operating cost	386.06		386.06	4.40
2.2	Interest during construction	573.36		573.36	6.54
	Sub total	**959.42**		**959.42**	**10.95**
3	**Working capital ****	**3,407.02**		**3,407.02**	**38.87**
	Grand Total	**8,124.04**	**640.15**	**8,764.19**	**100**

* *N.B Pre operating cost include project implementation cost such as installation, startup, commissioning, project engineering, project management etc and capitalized interest during construction.*

** *The total working capital required at full capacity operation is Birr 4.56 million. However, only the initial working capital of Birr 3.40 million during the first year of production is assumed to be funded through external sources. During the remaining years the working capital requirement will be financed by funds to be generated internally (for detail working capital requirement see Appendix 7.A.1).*

B. PRODUCTION COST

The annual production cost at full operation capacity is estimated at Birr 16.68 million (see Table 7.2). The cost of raw material account for 78.19% of the production cost. The other major components of the production cost are cost of marketing and distribution, labour, administration Costs, financial cost and depreciation, which account for 5.99%, 4.65%, 3.00%, 3.31%, and 3.16% respectively. The remaining 1.70% is the share of utility, repair and maintenance, labour overhead and administration cost. For detail production cost see Appendix 7.A.2.

Table 7.2

ANNUAL PRODUCTION COST AT FULL CAPACITY (year three)

Items	Cost (000 Birr)	%
Raw Material and Inputs	13,042	78.19
Utilities	68	0.41
Maintenance and repair	22	0.13
Labour direct	776	4.65
Labour overheads	194	1.16
Administration Costs	500	3.00
Land lease cost	0	0.00
Cost of marketing and distribution	1,000	5.99
Total Operating Costs	**15,602**	**93.54**
Depreciation	526	3.16
Cost of Finance	552	3.31
Total Production Cost	**16,681**	**100.00**

C. FINANCIAL EVALUATION

1. Profitability

Based on the projected profit and loss statement, the project will generate a profit throughout its operation life. Annual net profit after tax will grow from Birr 1.45 million to Birr 1.66 million during the life of the project. Moreover, at the end of the project life the accumulated net cash flow amounts to Birr 16.59 million. For profit and loss statement and cash flow projection see Appendix 7.A.3 and 7.A.4 respectively.

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 for capacity utilization and sales value estimated by using income statement projection are computed as followed.

$$\text{Break Even Sales Value} = \frac{\text{Fixed Cost + Financial Cost}}{\text{Variable Margin ratio (\%)}} = \text{Birr } 7{,}602{,}840$$

$$\text{Break Even Capacity utilization} = \frac{\text{Break even Sales Value}}{\text{Sales revenue}} \times 100 = 43.62\ \%$$

4. Pay-back Period

The pay-back period, also called pay – off period is defined as the period required for recovering 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 5 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 21.31% 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 in to 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 10% discount rate is found to be Birr 5.96 million which is acceptable. For detail discounted cash flow see Appendix 7.A.5.

D. ECONOMIC AND SOCIAL BENEFITS

The project can create employment for 46 persons. The project will generate Birr 3.31 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 will also create backward linkage with the textile manufacturing sub sector and also generates other income for the Government.

Appendix 7.A

FINANCIAL ANALYSES SUPPORTING TABLES

Appendix 7.A.1

NET WORKING CAPITAL (in 000 Birr)

Items	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Total inventory	2,445.38	2,771.43	3,260.50	3,260.50	3,260.50	3,260.50	3,260.50	3,260.50	3,260.50	3,260.50
Accounts receivable	995.98	1,117.67	1,300.20	1,300.20	1,300.91	1,300.91	1,300.91	1,300.91	1,300.91	1,300.91
Cash-in-hand	15.54	17.62	20.72	20.72	20.84	20.84	20.84	20.84	20.84	20.84
CURRENT ASSETS	**3,456.90**	**3,906.71**	**4,581.42**	**4,581.42**	**4,582.25**	**4,582.25**	**4,582.25**	**4,582.25**	**4,582.25**	**4,582.25**
Accounts payable	49.88	56.53	66.51	66.51	66.51	66.51	66.51	66.51	66.51	66.51
CURRENT LIABILITIES	**49.88**	**56.53**	**66.51**	**66.51**	**66.51**	**66.51**	**66.51**	**66.51**	**66.51**	**66.51**
TOTAL WORKING CAPITAL	**3,407.02**	**3,850.18**	**4,514.91**	**4,514.91**	**4,515.75**	**4,515.75**	**4,515.75**	**4,515.75**	**4,515.75**	**4,515.75**

Appendix 7.A.2
PRODUCTION COST (in 000 Birr)

Item	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Raw Material and Inputs	9,782	11,086	13,042	13,042	13,042	13,042	13,042	13,042	13,042	13,042
Utilities	51	58	68	68	68	68	68	68	68	68
Maintenance and repair	16	18	22	22	22	22	22	22	22	22
Labour direct	582	660	776	776	776	776	776	776	776	776
Labour overheads	146	165	194	194	194	194	194	194	194	194
Administration Costs	375	425	500	500	500	500	500	500	500	500
Land lease cost	0	0	0	0	9	9	9	9	9	9
Cost of marketing and distribution	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Total Operating Costs	**11,952**	**13,412**	**15,602**	**15,602**	**15,611**	**15,611**	**15,611**	**15,611**	**15,611**	**15,611**
Depreciation	526	526	526	526	526	125	125	125	125	125
Cost of Finance	0	631	552	473	394	315	237	158	79	0
Total Production Cost	**12,478**	**14,569**	**16,681**	**16,602**	**16,532**	**16,051**	**15,972**	**15,894**	**15,815**	**15,736**

Appendix 7.A.3
INCOME STATEMENT (in 000 Birr)

Item	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
Sales revenue	13,577	15,387	18,102	18,102	18,102	18,102	18,102	18,102	18,102	18,102
Less variable costs	10,952	12,412	14,602	14,602	14,602	14,602	14,602	14,602	14,602	14,602
VARIABLE MARGIN	**2,625**	**2,975**	**3,500**	**3,500**	**3,500**	**3,500**	**3,500**	**3,500**	**3,500**	**3,500**
in % of sales revenue	19.34	19.33	19.33	19.33	19.33	19.33	19.33	19.33	19.33	19.33
Less fixed costs	1,526	1,526	1,526	1,526	1,535	1,134	1,134	1,134	1,134	1,134
OPERATIONAL MARGIN	**1,099**	**1,449**	**1,973**	**1,973**	**1,965**	**2,366**	**2,366**	**2,366**	**2,366**	**2,366**
in % of sales revenue	8.09	9.41	10.90	10.90	10.85	13.07	13.07	13.07	13.07	13.07
Financial costs		631	552	473	394	315	237	158	79	0
GROSS PROFIT	**1,099**	**818**	**1,421**	**1,500**	**1,570**	**2,051**	**2,130**	**2,208**	**2,287**	**2,366**
in % of sales revenue	8.09	5.32	7.85	8.29	8.68	11.33	11.76	12.20	12.64	13.07
Income (corporate) tax	0	0	0	0	0	615	639	663	686	710
NET PROFIT	**1,099**	**818**	**1,421**	**1,500**	**1,570**	**1,436**	**1,491**	**1,546**	**1,601**	**1,656**
in % of sales revenue	8.09	5.32	7.85	8.29	8.68	7.93	8.24	8.54	8.84	9.15

Appendix 7.A.4
CASH FLOW FOR FINANCIAL MANAGEMENT (in 000 Birr)

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Scrap
TOTAL CASH INFLOW	**4,784**	**17,607**	**15,394**	**18,112**	**18,102**	**18,102**	**18,102**	**18,102**	**18,102**	**18,102**	**18,102**	**6,616**
Inflow funds	4,784	4,030	7	10	0	0	0	0	0	0	0	0
Inflow operation	0	13,577	15,387	18,102	18,102	18,102	18,102	18,102	18,102	18,102	18,102	0
Other income	0	0	0	0	0	0	0	0	0	0	0	6,616
TOTAL CASH OUTFLOW	**4,784**	**15,982**	**15,281**	**17,617**	**16,864**	**16,794**	**17,330**	**17,275**	**17,219**	**17,164**	**16,321**	**0**
Increase in fixed assets	4,784	0	0	0	0	0	0	0	0	0	0	0
Increase in current assets	0	3,457	450	675	0	1	0	0	0	0	0	0
Operating costs	0	10,952	12,412	14,602	14,602	14,611	14,611	14,611	14,611	14,611	14,611	0
Marketing and Distribution cost	0	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	0
Income tax	0	0	0	0	0	0	615	639	663	686	710	0
Financial costs	0	573	631	552	473	394	315	237	158	79	0	0
Loan repayment	0	0	788	788	788	788	788	788	788	788	0	0
SURPLUS (DEFICIT)	**0**	**1,625**	**113**	**495**	**1,238**	**1,308**	**772**	**827**	**883**	**938**	**1,781**	**6,616**
CUMULATIVE CASH BALANCE	**0**	**1,625**	**1,738**	**2,233**	**3,471**	**4,779**	**5,551**	**6,378**	**7,261**	**8,198**	**9,980**	**16,595**

Appendix 7.A.5
DISCOUNTED CASH FLOW (in 000 Birr)

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Scrap
TOTAL CASH INFLOW	**0**	**13,577**	**15,387**	**18,102**	**18,102**	**18,102**	**18,102**	**18,102**	**18,102**	**18,102**	**18,102**	**6,616**
Inflow operation	0	13,577	15,387	18,102	18,102	18,102	18,102	18,102	18,102	18,102	18,102	0
Other income	0	0	0	0	0	0	0	0	0	0	0	6,616
TOTAL CASH OUTFLOW	**8,191**	**12,395**	**14,077**	**15,602**	**15,603**	**15,611**	**16,226**	**16,250**	**16,273**	**16,297**	**16,321**	**0**
Increase in fixed assets	4,784	0	0	0	0	0	0	0	0	0	0	0
Increase in net working capital	3,407	443	665	0	1	0	0	0	0	0	0	0
Operating costs	0	10,952	12,412	14,602	14,602	14,611	14,611	14,611	14,611	14,611	14,611	0
Marketing and Distribution cost	0	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	0
Income (corporate) tax		0	0	0	0	0	615	639	663	686	710	0
NET CASH FLOW	**-8,191**	**1,182**	**1,310**	**2,500**	**2,499**	**2,491**	**1,876**	**1,852**	**1,829**	**1,805**	**1,781**	**6,616**
CUMULATIVE NET CASH FLOW	**-8,191**	**-7,009**	**-5,698**	**-3,199**	**-700**	**1,791**	**3,667**	**5,519**	**7,348**	**9,153**	**10,934**	**17,550**
Net present value	-8,191	1,075	1,083	1,878	1,707	1,547	1,059	950	853	765	687	2,551
Cumulative net present value	-8,191	-7,116	-6,033	-4,155	-2,449	-902	157	1,108	1,961	2,726	3,413	5,963

NET PRESENT VALUE	5,963
INTERNAL RATE OF RETURN	21.31%
NORMAL PAYBACK	5 years