

**PROFILE ON THE PRODUCTION OF TRAVEL
AND BRIEF CASES OF TEXTILE**

Table of Contents

I.	SUMMARY.....	2
II.	PRODUCT DESCRIPTION AND APPLICATION.....	2
III.	MARKET STUDY AND PLANT CAPACITY.....	3
IV.	RAW MATERIAL AND INPUTS.....	6
V.	TECHNOLOGY AND ENGINEERING.....	7
VI.	HUMAN RESOURCE AND TRAINING REQUIREMENT.....	12
VII.	FINANCIAL ANALYSIS.....	13
	FINANCIAL ANALYSES SUPPORTING TABLES.....	19

I. SUMMARY

This profile envisages the establishment of a plant for the production of travel and brief cases of textiles with a capacity of 93,302 pieces or 42 tons per annum. Travel and brief case are boxes and cases to store or transport or pack cloths and other materials.

The demand for travel and brief case is met both from local production and import. The present (2012) demand for travel and brief case is estimated at 1,866,035 pieces or 831tons. The demand for travel and brief case is projected to reach 3,005,267 pieces or 1,338 tons and 4,840,013 pieces or 2,154 tons by the year 2017 and 2022, respectively.

The principal raw material required is nylon fabric which is available from local market.

The total investment cost of the project including working capital is estimated at Birr 13.02 million. From the total investment cost, the highest share (Birr 8.07 million or 61.95%) is accounted by fixed investment cost followed by initial working capital (3.64 million or 27.92%) and pre operation cost (Birr 1.32 million or 10.13%). From the total investment cost, Birr 2.92 million or 22.44% is required in foreign currency.

The project is financially viable with an internal rate of return (IRR) of 28.58% and a net present value (NPV) of Birr 12.74 million, discounted at 10%.

The project can create employment for 37 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 nylon fabric factories and also generates other income for the Government.

II. PRODUCT DESCRIPTION AND APPLICATION

Textile travel bag is a strong and flexible container or box that opens at one end and is used to store, carry, transport or pack cloths and other materials. A brief case is a rectangular case with a handle, used for carrying books, papers or other materials. Textile travel bags and brief cases are mostly used by the urban population during travelling from one place to another for carrying personal belongings. Textile brief cases are also used by students and other sections of the population for carrying books and various types of documents.

III. MARKET STUDY AND PLANT CAPACITY

A. MARKET STUDY

1. Past Supply and Present Demand

The demand for travel and brief cases in Ethiopia is met both from local production and imports. However, local production of the product is undertaken mainly by individual tailor shops throughout the country. Due to the shortage of travel and brief case from domestic sources, the country has been importing a substantial amount of the product. The historical supply data of the product originating from import is shown in Table 3.1.

Table 3.1 reveals that the country imports a substantial quantity of travel and brief cases every year. On the average about 1.7 million pieces (755.08 tons) of travel and brief cases worth over Birr 18 million are annually imported in to the country during 2000 - 2011.

Table 3.1

IMPORT OF TRAVEL AND BRIEF CASE OF TEXTILE

Year	Quantity (No.)	Quantity (ton)	Value ('000 Birr)
2000	157,449	123	2,161
2001	411,460	408	6,195
2002	1,472,630	405	6,024
2003	674,339	496	8,749
2004	1,145,982	608	11,581
2005	1,278,691	954	16,269
2006	1,541,034	1,148	21,171
2007	8,113,390	1,128	26,135
2008	1,634,840	1,025	19,492
2009	1,390,306	1,087	32,387
2010	1,145,772	851	32,412
2011	1,390,848	828	36,236
Average	1,696,395	756	18,234

Source: Ethiopian Revenue and Customs Authority.

As could be seen form Table 3.1, there is a substantial growth in the imports of travel and brief cases. Total imports of the product on the average grew at the rate of 29.5% (in tons) annually during 2000 - 2011. To determine the present unsatisfied demand for travel and brief cases average import of the product during the period under reference is first assumed to reflect the demand for the year 2011. Then, a modest estimate of average annual growth rate of 10% is applied to arrive at the current (year 2012) unsatisfied demand for the product. Thus, the current unsatisfied demand for the product is estimated at 1866035 pieces or 830.59 tons.

2. Demand Projection

Demand for travel and brief cases is mainly influenced by population growth, urbanization, economic growth (rise in income and hence purchasing power of the population). Given the rapid population and economic growth, and the rate of urbanization in the country as well as the substantially high average rate of growth of imports of the product (29.5%) observed during 2000-2011, a modest estimate of 10% average annual growth rate is considered in projecting the unsatisfied demand for travel and brief case. The projected unsatisfied demand for the product is shown in Table 3.2.

Table 3.2

PROJECTED DEMAND FOR TRAVEL AND BRIEF CASES OF TEXTILE

Years	Projected Demand	
	No.	Ton
2013	2,052,638	913.65
2014	2,257,902	1,005.02
2015	2,483,692	1,105.52
2016	2,732,061	1,216.07
2017	3,005,267	1,337.68
2018	3,305,794	1,471.44
2019	3,636,374	1,618.59
2020	4,000,011	1,780.45
2021	4,400,012	1,958.49
2022	4,840,013	2,154.34

3. Pricing and Distribution

Travel and brief cases are, on the average, sold at Birr 300 per piece in retail shops in Addis Ababa. Allowing 30% for wholesale and retail margins, factory gate price for the envisaged plant is estimated at Birr 231 per piece.

The product can find its market outlet through the existing travelling bags and briefcases wholesale and retail shops through out the country.

B. PLANT CAPACITY AND PRODUCTION PROGRAM

1. Plant capacity

Given the expected demand for travel and brief case discussed earlier, and the available technology, the envisaged plant is set to produce about 93,302 pieces or 41.53 tons (5% of the current estimated demand) per annum.

2. Production Program

The program is scheduled based on the consideration that the envisaged plant will work 275 days in a year in 1 shift, where the remaining days will be holidays and for maintenance. During the first year of operation the plant will operate at 75 percent capacity and then it grows to 90 percent in the 2nd year. The capacity will grow to 100 percent starting from the 3rd year. This consideration is developed based on the assumption that market and logistics barriers would take place for the first two years of operation.

Table 3.3

PRODUCTION PROGRAM

No.	Description	Production Year		
		1	2	3
1	Capacity utilization rate (%)	75	90	100
2.1	Travel and brief case in (pcs)	69,977	83,972	93,302
2.2	Travel and brief case in(ton)	31.15	37.38	41.53

IV. RAW MATERIAL AND INPUTS

A. RAW AND AUXILIARY MATERIALS

The main raw materials for the envisaged project are nylon fabric. In addition, the plant requires inner lining, metal corners, zip, adhesive material, buttons, wooden frame, lock set and other allied accessories. The materials are available from local market. The total cost of raw material and input is estimated at Birr 15.055 million per annum. The annual raw and auxiliary material requirement and the associated cost at full capacity operation is given in Table 4.1.

Table 4.1

RAW MATERIALS REQUIREMENTS AND COST

Description	Unit	Qty	Cost ('000 Birr)		
			FC	LC	TC
Nylon fabric	sq.m	74,641.60	-	11,196.24	11,196.24
Inner lining	sq.m	37,320.80	-	747.65	747.65
Metal corners	pcs	746,416.00	-	298.57	298.57
Zip	pcs	186,604.00	-	186.60	186.60
Adhesive material	ton	85.00	-	17.00	17.00
Buttons	pcs	186604.00	-	74.64	74.64
Wooden frame	sq.m	24880.53	-	1,321.78	1,321.78
Lock	pcs	93,302.00	-	466.51	466.51
Cardboard (Box)	pcs	93,302.00	-	746.42	746.42
Total				15,055.41	15,055.41

B. UTILITIES

Electricity and water are utilities required for the envisaged plant. The total annual expenditure on utilities will be Birr 447,130. The details are shown in Table 4.2.

Table 4.2

ANNUAL UTILITIES REQUIREMENTS

No.	Description	Quantity	Unit	Unit Cost (Birr)	Total Cost (`000 Birr)
1	Electricity	660,000	kWh	0.65	429.00
2	Water	1,813	m ³	10.00	18.13
Total Annual Cost					447.13

V. TECHNOLOGY AND ENGINEERING

A. TECHNOLOGY

1. Process Description

The production process flow requires: Preparing Pattern/Frames of the product; Cutting of the nylon fabric; Stitching; Fixing of locks and accessories; Quality check of finished product and at last Packing. The detail of this process is discussed hereunder.

➤ **Pattern/frames of the product and cutting of nylon fabric**

In this process, dies/pattern are made according to the shape and design requirements of the product and the nylon fabric is cut into pieces of different sizes and shapes with the help of these dies/patterns. For briefcases, wooden and hardboard frames are readily available in the market in different standard sizes.

➤ **Stitching**

The cut nylon fabric is stitched as per the pattern prepared.

➤ **Fixing of locks and accessories**

The locks and accessories are fixed in the appropriate places and sizes.

➤ **Finishing quality check and packing**

Finished product is checked for the assured standards and products are packed. The alternative production technology is related to the capacity of operation. That is, irrespective of the production method, different types of machinery have got different capacity of operating the various jobs (cutting, stitching, etc). The technology selected by the envisaged plant adequately fits to the planned capacity and, therefore, alternative machineries are not as such recommended.

2. Environmental Impact

The production process involves pattern making, cutting of fabrics, stitching and fixing of accessories. Due to this reasons there are no hazardous wastes to be disposed. Hence, the project is environmental friendly.

B. ENGINEERING

1. Machinery and Equipment

The total cost of machinery and equipment including freight insurance and other cost is estimated to be about Birr 3,896,250 of which Birr 2,922,187 is required in foreign currency. The list of machineries and equipment required for producing travel and brief cases is shown in Table 5.1.

Table 5.1
LIST OF MACHINERY AND EQUIPMENT

S/N	Description	Qty
1	Hydraulic Cutting Press	2
2	Cutting Machine 1	3
3	Strap Cutting 1	2
4	Skiving Machine 2	4
5	Needle Lock stitch Machine 12	15
6	Single Needle Block 1	2
7	Single Needle Post-Bed Needle Feed 1	3
8	Dyes for Hydraulic Cutting 60	80

2. Land, Building and Civil Works

The total area required for plant site is estimated to be 800 m²; of this the built-up area of the factory will be 600 m². Building cost is estimated to be Birr 5,000 per m², and the total building cost will, then, be Birr 3 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 5,000 m², 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 m², 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 m². 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 m². 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 m² (see Table 5.2).

Table 5.2

NEW LAND LEASE FLOOR PRICE FOR PLOTS IN ADDIS ABABA

Zone	Level	Floor
Central Market District	1 st	1686
	2 nd	1535
	3 rd	1323
	4 th	1085
	5 th	894
Transitional zone	1 st	1035
	2 nd	935
	3 rd	809
	4 th	685
	5 th	555
Expansion zone	1 st	355
	2 nd	299
	3 rd	217
	4 th	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 m² 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 criteria 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 Comp. 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 m² is estimated at Birr 212,800 of which 10% or Birr 21,280 will be paid in advance. The remaining Birr 191,520 will be paid in equal installments with in 28 years i.e. Birr 6,840 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 REQUIREMENT

A. HUMAN RESOURCE REQUIREMENT

The total human resource requirement of the plant is estimated to be 37. The total annual cost of human resource is estimated at Birr 780,480. The human resource by type of job and corresponding costs are shown in Table 6.1.

Table 6.1

HUMAN RESOURCE REQUIREMENT AND LOBOR COST

No.	Job Title	Quantity	Salary (Birr)	
			Monthly	Annual
1	General Manager	1	4,000	48.00
2	Secretary	1	1,000	12.00
3	Production & Technical Head	1	2,500	30.00
4	Finance & Administration Head	1	2,500	30.00
5	Accountant	1	2,000	24.00
6	Sales person	1	1,000	12.00
7	Purchaser	1	1,500	18.00
8	Store Keeper	1	1,500	18.00
9	Quality Controller	1	1,500	18.00
10	Operator	5	1500	90.00
11	Laborer	3	600	21.60
12	Mechanic	2	1,500	36.00
13	Electrician	1	1,500	18.00
14	Driver	2	1,000	24.00
15	Guard	3	800	28.80
	Sub – Total	25		428.40
	Employee’s Benefit 20% basic salary			85.68
Grand Total				514.08

B. TRAINING REQUIREMENT

Training of key personnel shall be conducted, and it should primarily focus on the production technology and trouble shooting. Birr 50,000 will be allocated as training expense.

VII. FINANCIAL ANALYSIS

The financial analysis of the travel and brief case project is based on the data presented in the previous chapters and the following assumptions:-

Construction period	1 year
Source of finance	30 % equity and 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 13.02 million (see Table 7.1). From the total investment cost ,the highest share (Birr 8.07 million or 61.95%) is accounted by fixed investment cost followed by initial working capital (3.64 million or 27.92%) and pre operation cost (Birr 1.32 million or 10.13%). From the total investment cost, Birr 2.92 million or 22.44% 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	21.28		21.28	0.16
1.2	Building and civil work	3,000.00		3,000.00	23.04
1.3	Machinery and equipment	974.06	2,922.19	3,896.25	29.92
1.4	Vehicles	900.00		900.00	6.91
1.5	Office furniture and equipment	250.00		250.00	1.92
	Sub total	5,145.34	2,922.19	8,067.53	61.95
2	Pre operating cost *				
2.1	Pre operating cost	466.89		466.89	3.59
2.2	Interest during construction	851.96		851.96	6.54
	Sub total	1,318.85		1,318.85	10.13
3	Working capital **	3,636.38		3,636.38	27.92
	Grand Total	10,100.57	2,922.19	13,022.76	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 5.21 million. However, only the initial working capital of Birr 3.63 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 19.35 million (see Table 7.2). The cost of raw material account for 77.78% of the production cost. The other major components of the production cost are depreciation, financial cost, cost of marketing and distribution, and utility which account for 6.19%, 4.78%, 3.87%, and 2.31%, respectively. The remaining 5.07% is the share of direct labor, repair and maintenance, labor 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	15,055	78.68
Utilities	447	2.34
Maintenance and repair	117	0.61
Labor direct	428	2.24
Labor overheads	86	0.45
Administration Costs	350	1.83
Land lease cost	0	0.00
Cost of marketing and distribution	750	3.92
Total Operating Costs	17,233	90.07
Depreciation	1,198	6.26
Cost of Finance	703	3.67
Total Production Cost	19,133	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 1.63 million to Birr 2.85 million during the life of the project. Moreover, at the end of the project life the accumulated net cash flow amounts to Birr 29.05 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.

$$\text{Break -Even Sales Value} = \frac{\text{Fixed Cost} + \text{Financial Cost}}{\text{Variable Margin ratio (\%)}} = \text{Birr } 9,012,780$$

$$\text{Break -Even Capacity utilization} = \frac{\text{Break- even Sales Value} \times 100}{\text{Sales revenue}} = 29.40\%$$

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 3 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 28.58% 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 12.74 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 37 persons. The project will generate Birr 7.19 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 yarn factories 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	2,634.63	3,011.00	3,387.38	3,763.75	3,763.75	3,763.75	3,763.75	3,763.75	3,763.75	3,763.75
Accounts receivable	1,024.01	1,161.37	1,298.73	1,436.08	1,436.65	1,436.65	1,436.65	1,436.65	1,436.65	1,436.65
Cash-in-hand	9.54	10.90	12.26	13.63	13.72	13.72	13.72	13.72	13.72	13.72
CURRENT ASSETS	3,668.17	4,183.27	4,698.36	5,213.46	5,214.12	5,214.12	5,214.12	5,214.12	5,214.12	5,214.12
Accounts payable	31.79	36.33	40.88	45.42	45.42	45.42	45.42	45.42	45.42	45.42
CURRENT LIABILITIES	31.79	36.33	40.88	45.42	45.42	45.42	45.42	45.42	45.42	45.42
TOTAL WORKING CAPITAL	3,636.38	4,146.93	4,657.49	5,168.04	5,168.71	5,168.71	5,168.71	5,168.71	5,168.71	5,168.71

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	10,539	12,044	13,550	15,055	15,055	15,055	15,055	15,055	15,055	15,055
Utilities	313	358	402	447	447	447	447	447	447	447
Maintenance and repair	82	94	105	117	117	117	117	117	117	117
Labour direct	300	342	385	428	428	428	428	428	428	428
Labour overheads	60	69	77	86	86	86	86	86	86	86
Administration Costs	245	280	315	350	350	350	350	350	350	350
Land lease cost	0	0	0	0	7	7	7	7	7	7
Cost of marketing and distribution	750	750	750	750	750	750	750	750	750	750
Total Operating Costs	12,288	13,936	15,585	17,233	17,240	17,240	17,240	17,240	17,240	17,240
Depreciation	1,198	1,198	1,198	1,198	1,198	145	145	145	145	145
Cost of Finance	0	937	820	703	586	469	351	234	117	0
Total Production Cost	13,486	16,071	17,602	19,133	19,023	17,853	17,736	17,619	17,502	17,385

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	15,022	19,314	21,459	21,459	21,459	21,459	21,459	21,459	21,459	21,459
Less variable costs	11,538	13,186	14,835	16,483	16,483	16,483	16,483	16,483	16,483	16,483
VARIABLE MARGIN	3,484	6,128	6,624	4,976	4,976	4,976	4,976	4,976	4,976	4,976
in % of sales revenue	23.19	31.73	30.87	23.19	23.19	23.19	23.19	23.19	23.19	23.19
Less fixed costs	1,948	1,948	1,948	1,948	1,954	902	902	902	902	902
OPERATIONAL MARGIN	1,536	4,180	4,677	3,028	3,022	4,074	4,074	4,074	4,074	4,074
in % of sales revenue	10.23	21.64	21.79	14.11	14.08	18.99	18.99	18.99	18.99	18.99
Financial costs		937	820	703	586	469	351	234	117	0
GROSS PROFIT	1,536	3,243	3,857	2,326	2,436	3,606	3,723	3,840	3,957	4,074
in % of sales revenue	10.23	16.79	17.97	10.84	11.35	16.80	17.35	17.89	18.44	18.99
Income (corporate) tax	0	0	0	698	731	1,082	1,117	1,152	1,187	1,222
NET PROFIT	1,536	3,243	3,857	1,628	1,705	2,524	2,606	2,688	2,770	2,852
in % of sales revenue	10.23	16.79	17.97	7.59	7.95	11.76	12.14	12.53	12.91	13.29

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	8,534	19,542	19,319	21,464	21,459	21,459	21,459	21,459	21,459	21,459	21,459	7,842
Inflow funds	8,534	4,520	5	5	0	0	0	0	0	0	0	0
Inflow operation	0	15,022	19,314	21,459	21,459	21,459	21,459	21,459	21,459	21,459	21,459	0
Other income	0	0	0	0	0	0	0	0	0	0	0	7,842
TOTAL CASH OUTFLOW	8,534	16,808	16,560	18,091	20,320	19,728	19,962	19,880	19,798	19,716	18,462	0
Increase in fixed assets	8,534	0	0	0	0	0	0	0	0	0	0	0
Increase in current assets	0	3,668	515	515	515	1	0	0	0	0	0	0
Operating costs	0	11,538	13,186	14,835	16,483	16,490	16,490	16,490	16,490	16,490	16,490	0
Marketing and Distribution cost	0	750	750	750	750	750	750	750	750	750	750	0
Income tax	0	0	0	0	698	731	1,082	1,117	1,152	1,187	1,222	0
Financial costs	0	852	937	820	703	586	469	351	234	117	0	0
Loan repayment	0	0	1,171	1,171	1,171	1,171	1,171	1,171	1,171	1,171	0	0
SURPLUS (DEFICIT)	0	2,734	2,758	3,372	1,139	1,731	1,497	1,579	1,661	1,743	2,997	7,842
CUMULATIVE CASH BALANCE	0	2,734	5,492	8,865	10,004	11,734	13,232	14,811	16,473	18,216	21,213	29,055

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	15,022	19,314	21,459	21,459	21,459	21,459	21,459	21,459	21,459	21,459	7,842
Inflow operation	0	15,022	19,314	21,459	21,459	21,459	21,459	21,459	21,459	21,459	21,459	0
Other income	0	0	0	0	0	0	0	0	0	0	0	7,842
TOTAL CASH OUTFLOW	12,171	12,799	14,447	16,095	17,931	17,971	18,322	18,357	18,392	18,427	18,462	0
Increase in fixed assets	8,534	0	0	0	0	0	0	0	0	0	0	0
Increase in net working capital	3,636	511	511	511	1	0	0	0	0	0	0	0
Operating costs	0	11,538	13,186	14,835	16,483	16,490	16,490	16,490	16,490	16,490	16,490	0
Marketing and Distribution cost	0	750	750	750	750	750	750	750	750	750	750	0
Income (corporate) tax		0	0	0	698	731	1,082	1,117	1,152	1,187	1,222	0
NET CASH FLOW	-12,171	2,223	4,867	5,364	3,528	3,488	3,137	3,102	3,067	3,032	2,997	7,842
CUMULATIVE NET CASH FLOW	-12,171	-9,947	-5,080	283	3,811	7,299	10,437	13,539	16,606	19,639	22,635	30,477
Net present value	-12,171	2,021	4,022	4,030	2,409	2,166	1,771	1,592	1,431	1,286	1,155	3,023
Cumulative net present value	-12,171	10,150	-6,127	-2,097	312	2,478	4,249	5,841	7,272	8,558	9,713	12,737

NET PRESENT VALUE 12,737
INTERNAL RATE OF RETURN 28.58%
NORMAL PAYBACK 3 years