

**PROFILE ON THE PRODUCTION OF
CANVAS SHOE**

Table of Contents

I.	SUMMARY	2
II.	PRODUCTION DESCRIPTION AND APPLICATION	2
III.	MARKET STUDY AND PALNT CAPACITY	3
IV.	MATERIALS AND INPUTS.....	9
VI.	TECHNOLOGY AND ENGINEERING	11
VI.	HUMAN RESOURCE AND TRAINING REQUIREMENT	16
VII.	FINANCIAL ANALYSIS	18
	FINANCIAL ANALYSES SUPPORTING TABLES	23

I. SUMMARY

This profile envisages the establishment of a plant for the production of canvas shoe with a capacity of 490,000 pair per annum. Canvas shoe is a stiff-soled, protective foot wear that encloses the whole foot that can be worn by men, women and children alike.

The demand for canvas shoe is met through domestic production and import. The present (2012) demand for canvas shoe is estimated at 2, 944,585 pairs. The demand for canvas shoe is projected to reach 4,176,203 pairs and 5,588,701 pairs by the year 2017 and 2022, respectively.

The principal raw materials required are canvas fabrics (upper), lining and rubber sole. Canvas fabrics (upper) and lining are available locally while rubber sole has to be imported.

The total investment cost of the project including working capital is estimated at Birr 19.42 million. From the total investment cost the highest share (Birr 12.82 million or 66.00%) is accounted by fixed investment cost followed by initial working capital (Birr 4.55 million or 23.45%) and pre operation cost (Birr 2.05 million or 10.56%). From the total investment cost Birr 3.98 million or 20.50% is required in foreign currency.

The project is financially viable with an internal rate of return (IRR) of 14.22% and a net present value (NPV) of Birr 4.47 million discounted at 10%.

The project can create employment for 25 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 and shoe manufacturing sub sectors and also generates income for the Government in terms of tax revenue and payroll tax.

II. PRODUCTION DESCRIPTION AND APPLICATION

A canvas shoe is a stiff-soled, protective foot wear that encloses the whole foot. The upper part is made up to a closely woven, plain woven fabric made of natural or synthetic fibers and the sole part is a plastic material. With the growing interest in exercise for physical fitness, canvas

shoes will become standard footwear for men, women and children alike for the lower and middle income group of the society.

Canvas shoe production involves designing of the upper and inner parts, cutting of the canvas to fit, and assembling of the various parts. The insole fixing and trimming upper edge binding, bottom gluing are carried out in the finishing section. The environmental impact of canvas shoe production is negligible.

III. MARKET STUDY AND PALNT CAPACITY

A. MARKET STUDY

1. Past Supply and Present Demand

The data in the last many years show that majority of Ethiopia's demand for canvas shoes are met through import. The country imports various types of canvas shoe like training shoes with rubber or plastic soles, sports foot wears with rubber or plastic soles and footwear with leather or composition leather soles. Import of canvas shoe (with different soles and different uses) during the period 2000-2011 is given in Table 3.1 below.

Table 3.1
IMPORT OF CANVAS SHOES (PAIR)

Year	Quantity
2000	1,480,685
2001	2,121,846
2002	3,767,052
2003	4,042,244
2004	4,880,920
2005	2,654,649
2006	2,497,775
2007	3,439,689
2008	1,566,882
2009	1,027,683
2010	1,733,684
2011	1,304,294

Total	30,517,403
Average	2,543,117

Source: - Ethiopian Revenue & Customs Authority.

Table 3.1 shows that the imported quantity of the various types of canvas shoes in the period 2000 - 2004 had been increasing consistently. However, the imported quantity declined from 4,880,920 pairs in 2004 to 2,654,649 pairs in 2005. From 2005 --2010, (except in 2007) the data has revealed a declining trend. The average yearly import of the first five years (2000- 2004) was about 3.3 million pairs. This figure decreased to about 2.03 million pairs during the period 2005 -2011. During the period of analysis import of the product has registered an average annual growth rate of about 8%, and the over all average (2000-2010) is 2,543,117 pairs.

With regard to the domestic production, data obtained from CSA Statistical Abstract is shown in Table 3.2 below.

Table 3.2
DOMESTIC SUPPLY OF CANVAS SHOE

Year	Supply
2001	193,628
2002	215,625
2003	147,947
2004	281,625
2005	143396
2006	316,972
2007	336572
2008	107,385
2009	126,125
2010	214,111

Total	2,083,3386
Average	208,339

Source: - CSA, Statistical Abstract of Ethiopia

The data in table 3.2 shows that in the past ten years (2001-2010) the average production was around 208,339 pairs. This shows that compared to the average import of the product during the same period the share of domestic production in the total supply is only about 8%.

To estimate the current effective demand, the following assumptions have been taken.

Since the data of both imported and domestically produced canvas shoes are inconsistent and do not show a good trend, the average quantity of domestically produced (2001-2010) and imported canvas shoes during the period 2000 -2010 has been taken as effective demand for the year 2011. This is estimated to be 2,751,456 pairs, that is, 2,543,117 pairs from import and 208,339 pairs from domestic production.

As has been shown above the annual average growth rate of import of canvas shoes for twelve years is 8%. Hence, considering the combination of this rate and the growth rate of urban population, which is assumed to be 5% per annum7%, has been taken.

The present annual average (208,339 pairs) is assumed to be constant for the projected period.

Based on the above assumptions, the present effective demand for canvas shoes has been estimated at 2, 944,585 pairs.

2. Projected Demand

The demand for canvas shoe is mainly related with factors like population growth, income, urbanization as well as with sports and interest in exercise for physical fitness and health. Hence, considering these combined factors that influence the demand for canvas shoes, it is assumed to grow annually by 6%. The total projected demand and the unsatisfied demand is shown in Table 3.3 below.

Table 3.3

PROJECTED UNSATISFIED DEMAND FOR CANVAS SHOES (PAIR)

Year	Projected Demand	Domestic Production	Unsatisfied Demand
2012	3,120,701	208,339	2,912,362
2013	3,307,944	208,339	3,099,605
2014	3,506,420	208,339	3,298,081
2015	3,716,805	208,339	3,508,466
2016	3,939,814	208,339	3,731,475
2017	4,176,203	208,339	3,967,864
2018	4,426,775	208,339	4,218,436
2019	4,692,381	208,339	4,484,042
2020	4,973,924	208,339	4,765,585
2021	5,272,359	208,339	5,064,020
2022	5,588,701	208,339	5,380,362
2023	5,924,023	208,339	5,715,684
2024	6,279,465	208,339	6,071,126
2025	6,656,232	208,339	6,447,893

3. Pricing and Distribution

According to the information obtained from various shoe selling shops, the price of canvas shoes varies depending on the size, quality of the material used as well as the model. Assuming this project will produce canvas shoes that are mostly demanded by different groups of people (upper lower and middle income groups), an average price of Birr 50 per pair is recommended.

Regarding distribution, the product will find its market outlet through the existing plastic and canvas shoe distributing enterprises.

B. PLANT CAPACITY AND PRODUCTION PROGRAMME

1. Plant Capacity

The projected demand for the product shown in Table 3.3 indicates that the unsatisfied demand for canvas shoes in the year 2014 is 3,298,081 pairs and this figure would grow to 6,447,893 by the year 2025.

Based on the demand projection indicated and minimum economies of scale, the proposed plant will have a production capacity of 490,000 pair of canvas shoes per annum. The plant will operate single shift, 8 hours a day, and for 300 days a year. Production can be doubled or tripled by increasing the number of shifts as required.

2. Production Programme

The production programme is prepared based on the selected plant capacity and expected market share to be captured by the project. At the initial stage of production, the plant may require some years to penetrate into the market. Therefore, the plant will initially be operated at 75% of its full capacity, and gradually increase its annual production to 85%, and finally to 100% in the third year and then after. Table 3.4 shows the proposed production programme.

Table 3.4
PRODUCTION PROGRAMME

Sr. No.	Description	production year		
		1	2	3
1	Capacity utilization rate (%)	75.00	85.00	100.00
2	Pair of canvas shoes	367,500.00	416,500.00	490,000.00

IV. MATERIALS AND INPUTS

A. RAW MATERIALS

The major raw materials used in the production of canvas shoes are canvas fabrics (upper), lining and rubber sole. Annual cost of raw materials is estimated at Birr 13,341.97. The annual requirement for raw materials at 100% capacity utilization and costs of these materials are indicated in Table 4.1.

Table 4.1

ANNUAL REQUIREMENTS OF RAW MATERIALS AND COSTS

Sr. No.	Description	Annual consumption	unit	unit cost (Birr)	Cost (''000) Birr		
					LC	FC	Total (Birr)
1	Canvas fabrics (upper)	58,800	m ²	15.85	931.98		931.98
2	Lining	73,500	m ²	10.91	801.89		801.89
3	Rubber sole	490,000	pair	20.60		10,094.00	10,094.00
Total FOB						10,094.00	10,094.00
4	CIF(15%)				1,514.10		1,514.10
Total Raw material Annual cost					3,247.97	10,094.00	13,341.97

Auxiliary materials required for the production of canvas shoes include laces, insole (texone), eyelets, and miscellaneous (including sewing thread, glue, packing materials). Table 4.2 below depicts the annual requirements of auxiliary materials at full production capacity of canvas shoes, plant.

Table 4.2

ANNUAL REQUIREMENTS OF AUXILIARY MATERIALS AND COST

NO.	Description	Qty	Unit	Unit Cost (Birr)	Cost (`000 Birr)		
					LC	FC	Total (Birr)
1	Laces	490,000	Pair	3	1,470.00	-	1,470.00
2	Insole (texone)	24,500	m2	16	-	392.00	392.00
3	Eyelet	490,000	set	5	2,450.00	-	2,450.00
4	Miscellaneous	Lump sum	Lump sum		970.20	323.40	1,293.60
Total FOB						715.40	715.40
7	CIF(15%)				107.31		107.31
Total Auxiliary material Annual cost					4,997.51	715.40	5,712.91

B. UTILITIES

Electricity and water are the major utilities required by the plant. The annual expenditure on utilities will be Birr 106,820.00. The total annual requirement at 100% capacity utilization rate and the estimated costs are given in Table 4.3 below.

Table 4.3

UTILITIES REQUIREMENT AND ESTIMATED COST

Sr. No.	Description	Quantity	Unit	Unit Cost	Total Cost
				(Birr)	(000 Birr)
1	Electricity	149,000	kwh	0.58	86.82
2	Water	2,000	m ³	10.00	20.00
Total Annual cost					106.82

VI. TECHNOLOGY AND ENGINEERING

A. TECHNOLOGY

1. Production Process

The production process of canvas shoes starts by preparing three dimensional model and hard board patterns of the full range of sizes.

Then the first samples are produced and checked. Once the hand made models are approved, the final design is carried out according to which the upper and liner parts are cut and the parts to be assembled together are numbered. This is followed by assembling of the upper lining, upper stitching and lining trimming, upper edge binding, fixing to the insole, bottom giving, sole applying and giving are carried out in finishing section.

The production of canvas shoes does not have adverse effect on environment. By - products of the process are the cuttings and trimmings of canvas linings, rubber sole, etc. These can easily be collected, stored in containers and disposed of together with solid waste of the plant. The disposal activity can be carried out by NGO engaged in solid waste disposal.

2. Environmental Impact

The production process of canvas shoes does not have any negative impact on the environment.

B. ENGINEERING

1. Machinery and Equipment

The total cost of machinery and equipment is estimated at Birr 6.60 million of which Birr 3.98 is required in foreign currency. The list of machinery and equipment required for the envisaged plant is given in Table 5.1.

Table 5.1

MACHINERY AND EQUIPMENT REQUIREMENT

Sr. No.	Description	Qty. (No.)
1.	Single arm hydraulic cutting machine	2
2.	Zig Zag machine	1
3.	Single needle flat bed machine	4
4.	Post bed double needle machine	3
5.	Post bed single needle machine	10
6.	Skiving machine	3
7.	Numbering machine	1
8.	Stabbling machine	1
9.	Toe shaping machine	1
10.	Bottom forming	1
11.	Molding machine -24 stations	3

2. Building and Civil Works

The envisaged plant requires a total land area of 2,500 m², out of which 1000 m² is required for setting up buildings. Considering building construction cost of Birr 5,000 per square meter, the estimated cost of buildings and associated civil works is estimated at Birr 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 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 price/m²
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 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 m² is estimated at Birr 665,000 of which 10% or Birr 66,500 will be paid in advance. The remaining Birr 598,500 will be paid in equal installments with in 28 years i.e. Birr 21,375 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 envisaged project requires a total of 25 employees. The annual salary and wages including fringe benefits and allowances is estimated at Birr 584,640. The details of human resource requirement and the estimated annual cost including employees' benefits are shown in Table 6.1.

Table 6.1

HUMAN RESOURCE REQUIREMENT AND COST

Sr. No.	Description	Qty	Monthly Salary (Birr)	Annual salary ("000) Birr
1	General manager	1	6,000.00	72.0
2	Secretary	1	1,500.00	18.0
3	Administration and finance	1	3,500.00	42.0
4	Accountant	1	2,000.00	24.0
5	Mechanic	1	2,200.00	26.4
6	Electrician	1	2,200.00	26.4
7	operators	6	1,400.00	100.8
8	production foreman	1	3,000.00	36.0
11	Clerk	1	800.00	9.6
12	Cashier	1	1,000.00	12.0
13	Assistant operator	3	700.00	25.2
14	Quality supervisor	2	1,600.00	38.4
15	store keeper	1	1,400.00	16.8
16	time keeper	1	1,200.00	14.4
17	Guards	3	700.00	25.2
Total		25	29,200.00	487.2
18	Employees benefit and allowances 20%			97.4
Total				584.6

B. TRAINING REQUIREMENT

Training will be required for supervisor and production workers. It is recommended that machinery supplier will provide on-job training for about two weeks. The cost of training is estimated at Birr 60,000.00

VII. FINANCIAL ANALYSIS

The financial analysis of the canvas shoe 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 19.42 million (See Table 7.1). From the total investment cost the highest share (Birr 12.82 million or 66.00%) is accounted by fixed investment cost followed by initial working capital (Birr 4.55 million or 23.45%) and pre operation cost (Birr 2.05 million or 10.56%). From the total investment cost Birr 3.98 million or 20.50% 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	66.50		66.50	0.34
1.2	Building and civil work	5,000.00		5,000.00	25.75
1.3	Machinery and equipment	2,620.00	3,980.00	6,600.00	33.99
1.4	Vehicles	900.00		900.00	4.63
1.5	Office furniture and equipment	250.00		250.00	1.29
	Sub total	8,836.50	3,980.00	12,816.50	66.00
2	Pre operating cost *				
2.1	Pre operating cost	780.00		780.00	4.02
2.2	Interest during construction	1,270.48		1,270.48	6.54
	Sub total	2,050.48		2,050.48	10.56
3	Working capital **	4,553.24		4,553.24	23.45
	Grand Total	15,440.23	3,980.00	19,420.23	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 4.69 million. However, only the initial working capital of Birr 3.22 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 24.10 million (see Table 7.2). The cost of raw material account for 79.05% of the production cost. The other major components of the production cost are depreciation, financial cost, labour, and marketing and distribution which account for 7.80%, 4.35%, 2.02% and 3.11% respectively. The remaining 3.67% 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	19,055	79.05
Utilities	107	0.44
Maintenance and repair	330	1.37
Labour direct	487	2.02
Labour overheads	97	0.40
Administration Costs	350	1.45
Land lease cost	0	0.00
Cost of marketing and distribution	750	3.11
Total Operating Costs	21,176	87.85
Depreciation	1,881	7.80
Cost of Finance	1,048	4.35
Total Production Cost	24,105	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 276 thousand to Birr 2.15 million during the life of the project. Moreover, at the end of the project life the accumulated net cash flow amounts to Birr 19.81 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.

$$\text{Break Even Sales Value} = \frac{\text{Fixed Cost} + \text{Financial Cost}}{\text{Variable Margin ratio (\%)}} = \text{Birr } 10,290,000$$

$$\text{Break Even Capacity utilization} = \frac{\text{Break even Sales Value}}{\text{Sales revenue}} \times 100 = 43.01 \%$$

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 9 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 14.22% 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 4.47 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 25 persons. The project will generate Birr 4.38 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 and shoe manufacturing sub sectors 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	3,334.60	3,810.98	4,287.35	4,763.72	4,763.72	4,763.72	4,763.72	4,763.72	4,763.72	4,763.72
Accounts receivable	1,254.01	1,424.23	1,594.44	1,764.66	1,766.44	1,766.44	1,766.44	1,766.44	1,766.44	1,766.44
Cash-in-hand	12.29	14.04	15.80	17.56	17.85	17.85	17.85	17.85	17.85	17.85
CURRENT ASSETS	4,600.90	5,249.25	5,897.59	6,545.93	6,548.01	6,548.01	6,548.01	6,548.01	6,548.01	6,548.01
Accounts payable	47.66	54.47	61.28	68.08	68.08	68.08	68.08	68.08	68.08	68.08
CURRENT LIABILITIES	47.66	54.47	61.28	68.08	68.08	68.08	68.08	68.08	68.08	68.08
TOTAL WORKING CAPITAL	4,553.24	5,194.78	5,836.31	6,477.85	6,479.93	6,479.93	6,479.93	6,479.93	6,479.93	6,479.93

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	13,338	15,244	17,149	19,055	19,055	19,055	19,055	19,055	19,055	19,055
Utilities	75	86	96	107	107	107	107	107	107	107
Maintenance and repair	231	264	297	330	330	330	330	330	330	330
Labour direct	341	390	438	487	487	487	487	487	487	487
Labour overheads	68	78	87	97	97	97	97	97	97	97
Administration Costs	245	280	315	350	350	350	350	350	350	350
Land lease cost	0	0	0	0	21	21	21	21	21	21
Cost of marketing and distribution	750	750	750	750	750	750	750	750	750	750
Total Operating Costs	15,048	17,091	19,133	21,176	21,197	21,197	21,197	21,197	21,197	21,197
Depreciation	1,881	1,881	1,881	1,881	1,881	225	225	225	225	225
Cost of Finance	0	1,398	1,223	1,048	873	699	524	349	175	0
Total Production Cost	16,929	20,369	22,237	24,105	23,952	22,121	21,946	21,772	21,597	21,422

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	17,150	22,050	24,500	24,500	24,500	24,500	24,500	24,500	24,500	24,500
Less variable costs	14,298	16,341	18,383	20,426	20,426	20,426	20,426	20,426	20,426	20,426
VARIABLE MARGIN	2,852	5,709	6,117	4,074	4,074	4,074	4,074	4,074	4,074	4,074
in % of sales revenue	16.63	25.89	24.97	16.63	16.63	16.63	16.63	16.63	16.63	16.63
Less fixed costs	2,631	2,631	2,631	2,631	2,652	996	996	996	996	996
OPERATIONAL MARGIN	221	3,078	3,486	1,443	1,422	3,078	3,078	3,078	3,078	3,078
in % of sales revenue	1.29	13.96	14.23	5.89	5.80	12.56	12.56	12.56	12.56	12.56
Financial costs		1,398	1,223	1,048	873	699	524	349	175	0
GROSS PROFIT	221	1,681	2,263	395	548	2,379	2,554	2,728	2,903	3,078
in % of sales revenue	1.29	7.62	9.24	1.61	2.24	9.71	10.42	11.14	11.85	12.56
Income (corporate) tax	0	0	0	118	164	714	766	819	871	923
NET PROFIT	221	1,681	2,263	276	384	1,665	1,788	1,910	2,032	2,154
in % of sales revenue	1.29	7.62	9.24	1.13	1.57	6.80	7.30	7.80	8.29	8.79

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	13,597	23,021	22,057	24,507	24,500	24,500	24,500	24,500	24,500	24,500	24,500	10,817
Inflow funds	13,597	5,871	7	7	0	0	0	0	0	0	0	0
Inflow operation	0	17,150	22,050	24,500	24,500	24,500	24,500	24,500	24,500	24,500	24,500	0
Other income	0	0	0	0	0	0	0	0	0	0	0	10,817
TOTAL CASH OUTFLOW	13,597	20,920	20,883	22,751	24,738	23,984	24,357	24,234	24,112	23,990	22,121	0
Increase in fixed assets	13,597	0	0	0	0	0	0	0	0	0	0	0
Increase in current assets	0	4,601	648	648	648	2	0	0	0	0	0	0
Operating costs	0	14,298	16,341	18,383	20,426	20,447	20,447	20,447	20,447	20,447	20,447	0
Marketing and Distribution cost	0	750	750	750	750	750	750	750	750	750	750	0
Income tax	0	0	0	0	118	164	714	766	819	871	923	0
Financial costs	0	1,270	1,398	1,223	1,048	873	699	524	349	175	0	0
Loan repayment	0	0	1,747	1,747	1,747	1,747	1,747	1,747	1,747	1,747	0	0
SURPLUS (DEFICIT)	0	2,102	1,173	1,755	-238	516	143	266	388	510	2,379	10,817
CUMULATIVE CASH BALANCE	0	2,102	3,275	5,031	4,793	5,309	5,452	5,718	6,106	6,616	8,995	19,812

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	17,150	22,050	24,500	24,500	24,500	24,500	24,500	24,500	24,500	24,500	10,817
Inflow operation	0	17,150	22,050	24,500	24,500	24,500	24,500	24,500	24,500	24,500	24,500	0
Other income	0	0	0	0	0	0	0	0	0	0	0	10,817
TOTAL CASH OUTFLOW	18,150	15,690	17,732	19,775	21,296	21,362	21,911	21,963	22,016	22,068	22,121	0
Increase in fixed assets	13,597	0	0	0	0	0	0	0	0	0	0	0
Increase in net working capital	4,553	642	642	642	2	0	0	0	0	0	0	0
Operating costs	0	14,298	16,341	18,383	20,426	20,447	20,447	20,447	20,447	20,447	20,447	0
Marketing and Distribution cost	0	750	750	750	750	750	750	750	750	750	750	0
Income (corporate) tax		0	0	0	118	164	714	766	819	871	923	0
NET CASH FLOW	-18,150	1,460	4,318	4,725	3,204	3,138	2,589	2,537	2,484	2,432	2,379	10,817
CUMULATIVE NET CASH FLOW	-18,150	16,689	-12,372	-7,646	-4,443	-1,305	1,284	3,821	6,305	8,737	11,117	21,933
Net present value	-18,150	1,328	3,568	3,550	2,188	1,949	1,461	1,302	1,159	1,031	917	4,170
Cumulative net present value	-18,150	16,822	-13,254	-9,704	-7,516	-5,567	-4,106	-2,804	-1,645	-614	304	4,474

NET PRESENT VALUE 4,474
INTERNAL RATE OF RETURN 14.22%
NORMAL PAYBACK 9 years