

Investment Office ANRS

**PROJECT PROFILE ON THE ESTABLISHMENT
OF FINISHED LEATHER MAKING PLANT**

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Table of Contents

1. Executive Summary.....	1
2. Product Description and Application.....	1
3. Market Study, Plant Capacity and Production Program.....	2
3.1 Market Study.....	2
3.1.1 Present Demand and Supply	2
3.1.2 Projected Demand.....	3
3.1.3 Pricing and Distribution.....	4
3.2 Plant Capacity	4
3.3 Production Program	5
4. Raw Materials and Utilities	5
4.1 Availability and Source of Raw Materials.....	5
4.2 Annual Requirement and Cost of Raw Materials and Utilities.....	5
5 Location and Site	6
6 Technology and Engineering.....	6
6.1 Production Process.....	6
6.2 Machinery and Equipment.....	7
6.3 Civil Engineering Cost.....	8
7 Human Resource and Training Requirement	9
7.1 Human Resource.....	9
7.2 Training Requirement	9
8 Financial Analysis.....	10
8.1 Underlying Assumption	10
8.2 Investment.....	11
8.3 Production Costs	11
8.4 Financial Evaluation	12
9 Economic and Social Benefit and Justification.....	13
ANNEXES	15

1. Executive Summary

This project profile deals with the establishment of finished leather making plant in Amhara National Regional State. The following presents the main findings of the study.

Demand projection divulges that the domestic demand for finished leather is substantial and is increasing with time. Accordingly, the planned plant is set to produce 150 thousand meter square annually. The total investment cost of the project including working capital is estimated at Birr 7.77 million and creates 48 jobs and Birr 627.12 thousand of income

The financial result indicates that the project will generate profit beginning from the first year of operation. Moreover, the project will break even at 12.7% of capacity utilization and it will payback fully the initial investment less working capital in 1 year and 9 months. The result further shows that the calculated IRR of the project is 46.5% with NPV of Birr 8,234,126.75

In addition to this, the proposed project possesses wide range of economic and social benefits such as increasing the level of investment, tax revenue, and employment creation.

Generally, the project is technically feasible, financially and commercially viable as well as socially and economically acceptable. Hence the project is worth implementing.

2. Product Description and Application

Leather is animal skin that has been chemically modified to produce a strong, flexible material that resists decay. Most of the world output of leather is produced from cattle hides, goatskins and sheepskins. Hides and skins undergo a number of processing stages before a final product called finished leather is reached.

Leather is used for a wide range of products. The variety of skins and the way they are processed can produce leather as soft as cloth or as hard as a shoe sole. In other words, finished leather is used for making leather products such as garments, shoe uppers, belts, sandals, cases and covers of all types, shoe sole, gloves, transmission belts, etc.

3. Market Study, Plant Capacity and Production Program

3.1 Market Study

3.1.1 Present Demand and Supply

Ethiopia is known to have the largest number of livestock in Africa and the tenth largest in the world. According to CSA, Annual Abstract (2008), in 2006/07 Ethiopia has got 43.1 million cattle, 23.6 million sheep and 18.6 million goats. On the other hand the Ministry of Agriculture and Rural Development estimated that the skin removal rate is 7% for cattle, 33% for sheep and 37% for goats. This translates into an output of 3.02 million hides, 7.8 million Sheep skins and 6.9 million Goat skins in 2006/07. On average, therefore, Ethiopia has the capacity to supply 16 to 18 million pieces of hides and skins to local tanneries where more than one-fourth of the product is estimated to be the share of Amhara region. The hides and skins are processed by domestic tanneries mainly in the form of semi finished and a little of finished leather.

Generally, the leather industry in the country produces hides, pickled sheep skins, wet-blue goat skins, crust, finished leather and leather products. At present there are 21 tanneries which are mainly producing semi processed products for export and small quantities of finished products for domestic leather industries. The majority of the finished leather (85%) is locally consumed by shoe and garment producers while a small proportion (15%) is sold abroad (Ethiopia: Country Economic Memorandum, World Bank; 2004). There are also a number of medium and small industries that produce leather garment, footwear, and leather articles mainly for domestic markets. The following table summarizes the overall leather products in the country.

Table 1: Domestic Production of Leather

Year	Crust Hides and Wet Blue Hides (000 sq.ft)	Semi Processed Skins (000 pcs)	Leather Sole (tons)	Leather Upper and lining (000 sq.m)	Leather shoes and Boots (pairs)	Leather Garment (000 sq.ft)
1997/98	3,551	17,913	-	545	1,080,460	1,611
1998/99	4,566	13,031	-	747	1,400,748	3,890
1999/00	6,483	10,848	26,110	1,026	1,585,034	3,918
2000/01	9,245	29,028	-	501	1,326,253	960
2001/02	4,569	10,489	-	923	1,098,574	4,669
2002/03	13,094	12,797	3,793	520	866,994	6,654
2003/04	11,067	11,736	3,219	739	1,081,488	8,972
2004/05	12,106	10,818	-	685	846,044	9,465
2005/06	18,099	23,562	-	608	1,287,012	9,615

Source: CSA, (various years)

The above table shows that there is a general upward trend in most of the leather products. However, in estimating the present finished leather demand in the country the consumption by leather shoe and garment producers is considered since these sectors require finished leather. Accordingly, if we conservatively assume that one square meter of finished leather is required to produce 6 pairs of shoes, and the share of shoe industry is 20% where the remaining is consumed by the leather garment producers; the total demand for finished leather in 2005/06 is estimated to be 1,107,765 square meters.

3.1.2 Projected Demand

According to table 1, the demand for leather shoes and boots has increased on average by 5% in the year under consideration while 67% growth rate has been registered by the leather garment production. Similarly in the preceding section it is estimated that the majority of finished leather (80%) is consumed by leather garments where the remaining (20%) is used for shoe production. Therefore, the combined growth rate of finished leather demand for the period 1997/98 to 2005/06 is estimated to be 55%.

As domestic demand for leather products is mainly dictated by income growth of the consumers, the projection of future demand should make use of income parameters instead of average past trend. Accordingly 10% income growth is forecasted in line with the recent GDP trend recorded in the country to arrive at the following estimates.

Table 2: Projected Demand for Finished Leather (in m²)

Year	Projected Demand
2007/08	1,340,396
2008/09	1,474,435
2009/10	1,621,879
2010/11	1,784,067
2011/12	1,962,473
2012/13	2,158,721
2013/14	2,374,593
2014/15	2,612,052
2015/16	2,873,257
2016/17	3,160,583
2017/18	3,476,641

According to table 2, demand for finished leather substantially increases in the coming years. However, according to an industry survey conducted by the Ethiopian Export Promotion Agency, leather producing firms report that they are operating below capacity due to obsolete machinery, marketing problem and other constraining factors. This suggests the significance of entering into the sector with modern machineries and skilled human resources that produce finished leather for domestic consumption.

3.1.3 Pricing and Distribution

Based on the market research result and the capacity of the envisaged plant, the selling price is set to be Birr 125 per square meter of finished leather. In distributing the output, the envisaged plant shall make direct contact with shoe and garment producers.

3.2 Plant Capacity

In consideration of the expected demand for finished leather as presented earlier, and the planned technology, the envisaged plant is set to produce 150 thousand meter square annually.

3.3 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 50 percent capacity and then it grows to 70 percent in the 2nd year and 90 percent in the 3rd year. The capacity will grow to 100 percent starting from the 4th year. This consideration is developed based on the assumption that market and logistics barriers would take place for the first three years of operation.

4. Raw Materials and Utilities

4.1 Availability and Source of Raw Materials

The main raw material in producing finished leather is semi finished hide and skin, processing chemicals and dyes. The envisaged plant will obtain the semi finished skins from the plants operating in the region as well as from plants situated in Addis Ababa. In this regard the envisaged plant has a positive contribution in creating more demand to firms producing semi finished leather products. The plant shall import the required processing chemicals and dyes from abroad.

4.2 Annual Requirement and Cost of Raw Materials and Utilities

The annual raw material and utility requirement and the associated cost for the envisaged plant is listed in table 3 here under.

Table 4 Material and Utility Requirement

Material and Input	Quantity	Total Cost	
		L.C.	F.C.
Wet Blue Hides	150,100 m ²	11,257,500	
Lacquer emulsions	3 tons		150,000
Sodium bicarbonate	2 tons		6,500
Sodium acetate	2 tons		44,000
Formaldehyde	1 tons		35,000
Dyes (different colors)	4 tons		220,000
Total Material Cost		11,275,000	455,500
Utility			
Electricity	220,000 kwh	121,000	
Furnace Oil	50,000 lit	350,000	
Water	15,000m ³	39,750	
Total Utility Cost		510,750	

Accordingly, the total material and utility cost at full capacity of operation is estimated to be Birr 12,241,250.

5 Location and Site

The appropriate location for the envisaged project, in view of the availability of input, infrastructure as well as market for the output is Debre Birhan. That is, at Debre Birhan the proposed plant will have the advantage of access to wet blue hide either from plants operating in the Amhara region or Addis Ababa. In addition to this, the selected place represents an ideal place as most of garment and shoe producing firms are located in and around Addis Ababa.

6 Technology and Engineering

6.1 Production Process

The production process adopted by the envisaged plant is stated in four major steps as follows:

Step I: Preliminaries: This includes delivery, classification and stockpiling. That is, wet blue skin received from other plants is first classified, palletted and shaved.

Step II: Re-tanning: This involves re-treatment of wet blue skins, which are placed in drums.

Step III: Pre-finishing activities: In this section skins are “horsed up” (i.e., racked for a period of time set out), color dyed, stretched, dried using hot air, and then ironed.

Step IV: Finishing: This involves classification and cutting (including sorting and trimming), spraying, and final conditioning which includes staking, buffing and milling. The latter operations are all carried out “dry”.

The alternative technological option requires a production process that starts from the raw hides and skins instead of obtaining semi finished hides and skins and translating it into finished leather. In other words, the alternative approach requires setting up an integrated plant. But this approach is not recommended for a number of reasons. First of all, the existing plants can easily supply the small amount of semi finished leather required by the envisaged plant. In addition to this, integrating the semi finishing and finishing plants require huge investment and hence large sum of capital. Moreover, effluent control and environmental risks generally are significantly reduced by the proposed production process since it is intended to acquire hides and skins that have already been through primary stage tanning processes.

6.2 Machinery and Equipment

The machineries and equipment required for producing finished leather is detailed in table 4 below.

Table 4: Machinery and Equipment

Machinery and Equipment	Quantity
Drum with 5HP motor shaft pulley	2
Electrical Unit Heater for Stuffing Drum 5HP	2
Shaving Machine - single width	1
Electrical Hand Operated Setting Out Machine	1
Lace Cutting Machine	1
Spraying Machine with Dryer	1
Hydraulic Press	1
Brushing Machine with Drier	1
Miscellaneous equipment	

The total cost of machinery and equipment including freight insurance and bank cost is estimated to be about Birr 2,500,000.

The following are some of the machineries suppliers' address for the envisaged project

B. K. Associates, Chennai

Mouda Ibrahim Street, Nagalkeni, Chrompet
Chennai, Tamil Nadu, India

Phone: +(91)-(44)-22485442

Fax: +(91)-(44)-22485441

Mac-India International

Anna Salai, Nandanam
Chennai, Tamil Nadu, India

Phone: +(91)-(44)-24355454/52178079

Fax: +(91)-(44)-24355454

6.3 Civil Engineering Cost

The total site area for the envisaged plant is estimated to be 1,000m² where 850m² is allocated to the production space and the remainder is left for stores (100m²), office buildings and facilities (50m²).

7 Human Resource and Training Requirement

7.1 Human Resource

The required manpower for the envisaged plant is stated in table 5 below.

Table 5: Human Resource Requirement

Position	No. Required	Monthly Salary	Total Annual Salary
Manager	1	4500	54000
Production Manager	1	4000	48000
Administration/Finance Head	1	3000	36000
Accountant	1	1200	14400
Secretary	1	850	10200
Sales Clerk	2	800	19200
Store Keeper	2	800	19200
Technician	2	1000	24000
Supervisor	3	1200	43200
Operators	18	800	172800
Daily Laborers	8	400	38400
Cleaners	2	400	9600
Messengers	1	400	4800
Driver	1	800	9600
Guards	4	400	19200
Benefit (20%)			104520
Total	48		627120

The envisaged plant creates 48 jobs opportunity and about Birr 627.12 thousand of income. The professionals and support staff for the envisaged plant shall be recruited from Amhara region.

7.2 Training Requirement

Training of key personnel is very vital in this business and shall be conducted in collaboration with the suppliers of the plant machineries. The training should primarily focus on the production technology and machinery maintenance and trouble shooting. Birr 100,000 will be allocated as training expense.

8 Financial Analysis

8.1 Underlying Assumption

The financial analysis of finished leather making plant is based on the data provided in the preceding sections and the following assumptions.

A. Construction and Finance

Construction period	2 years
Source of finance	40% equity and 60% loan
Tax holidays	2 years
Bank interest rate	12%
Discount for cash flow	18%
Value of land	Based on lease rate of ANRS
Spare Parts, Repair & Maintenance	1% of fixed investment

B. Depreciation

Building	5%
Machinery and equipment	10%
Office furniture	10%
Vehicles	20%
Pre-production (amortization)	20%

C. Working Capital (Minimum Days of Coverage)

Raw Material-Local	30
Raw Material-Foreign	120
Factory Supplies in Stock	30
Spare Parts in Stock and Maintenance	30
Work in Progress	10
Finished Products	15
Accounts Receivable	30
Cash in Hand	30
Accounts Payable	30

8.2 Investment

The total investment cost of the project including working capital is estimated at Birr 7.77 million as shown in table 6 below. The Owner shall contribute 40% of the finance in the form of equity while the remaining 60% is to be financed by bank loan.

Table 6: Total initial investment

Items	L.C	F.C	Total
Land	3,000		3,000
Building and civil works	2,000,000		2,000,000
Office equipment	100,000		100,000
Vehicles	250,000		250,000
Plant machinery & equipment	0	2,500,000	2,500,000
<i>Total fixed investment cost</i>	<i>2,353,000</i>	<i>2,500,000</i>	<i>4,853,000</i>
Pre production capital expenditure*	242,650		242,650
<i>Total initial investment</i>	<i>2,595,650</i>	<i>2,500,000</i>	<i>5,095,650</i>
Working capital at full capacity	2,478,959	198,764	2,677,722
Total	5,074,609	2,698,764	7,773,372

**Pre-production capital expenditure includes - all expenses for pre-investment studies, consultancy fee during construction and expenses for company's establishment, project administration expenses, commission expenses, preproduction marketing and interest expenses during construction.*

The foreign component of the project accounts for 34.7% of the total investment cost.

8.3 Production Costs

The total production cost at full capacity operation is estimated at Birr 13.9 million as detailed in table 7 below.

Table 7: Production Cost

Items	Cost
1. Raw materials	11,730,500
2. Utilities	510,750
3. Wages and Salaries	627,120
4. Spares and Maintenance	48,530
<i>Factory costs</i>	<i>12,916,900</i>
5. Depreciation	458,530
6. Financial costs	559,683
<i>Total Production Cost</i>	<i>13,935,113</i>

8.4 Financial Evaluation

I. Profitability

According to the projected income statement attached in the annex part (see annex 4) the project will generate profit beginning from the first year of operation. Ratios such as the percentage of net profit to total sales, return on equity and return on total investment are 12%, 38% and 37% respectively in the first year and are gradually rising. Furthermore, the income statement and other profitability indicators show that the project is viable.

II. Breakeven Analysis

The breakeven point of the project is estimated by using income statement projection. Accordingly, the project will break even at 12.7% of capacity utilization.

III. Payback Period

Investment cost and income statement projection are used in estimating the project payback period. The project will payback fully the initial investment less working capital in 1 year and 9 months.

IV. Simple Rate of Return

For the envisaged plant the simple rate of return equals to 48.3%.

V. *Internal Rate of Return and Net Present Value*

Based on cash flow statement described in the annex part, the calculated IRR of the project is 46.5% and the net present value at 18 % discount is Birr 8,234,126.75

VI. *Sensitivity Analysis*

The envisaged plant is profitable even with considerable cost increment. That is the plant maintains to be profitable starting from the first year when 10 % cost increment takes place in the sector.

9 Economic and Social Benefit and Justification

The envisaged project possesses wide range of benefits that promote the socio-economic goals and objectives stated in the strategic plan of the Amhara National Regional State. It boosts inter sectorial linkage between the agricultural (livestock) and industrial sector. At the same time, therefore, it helps diversify the economic activity of the region. The other major benefits are listed as follows:

A. Profit Generation

The project is found to be financially viable and earns on average a profit of Birr 3.24 million per year and Birr 32.43 million within the project life. Such result induces the project promoters to reinvest the profit which, therefore, increases the investment magnitude in the region.

B. Tax Revenue

In the project life under consideration, the region will collect about Birr 12.1 million from corporate tax payment alone (i.e. excluding income tax, sales tax and VAT). Such result creates additional fund for the regional government that will be used in expanding social and other basic services in the region.

C. Employment and Income Generation

The proposed project is expected to create employment opportunity for several citizens of the region. That is, it will provide permanent employment to 48 professionals as well as support staff. Consequently the project creates income of Birr 627.12 thousand per year. This would be one of the commendable accomplishments of the project.

D. Pro Environment Project

The proposed production process is environment friendly.

ANNEXES

Annex 1: Total Net Working Capital Requirements (in Birr)

	CONSTRUCTION		PRODUCTION			
	Year 1	Year 2	1	2	3	4
Capacity Utilization (%)	0	0	50%	70%	90%	100%
1. Total Inventory	0.00	0.00	1991177.28	2787648.19	3584119.10	3982354.56
Raw Materials in Stock- Total	0.00	0.00	714381.82	1000134.55	1285887.27	1428763.64
Raw Material-Local	0.00	0.00	615000.00	861000.00	1107000.00	1230000.00
Raw Material-Foreign	0.00	0.00	99381.82	139134.55	178887.27	198763.64
Factory Supplies in Stock	0.00	0.00	7295.69	10213.96	13132.24	14591.38
Spare Parts in Stock and Maintenance	0.00	0.00	7941.27	11117.78	14294.29	15882.55
Work in Progress	0.00	0.00	182392.23	255349.12	328306.01	364784.45
Finished Products	0.00	0.00	364784.45	510698.24	656612.02	729568.91
2. Accounts Receivable	0.00	0.00	1022727.27	1431818.18	1840909.09	2045454.55
3. Cash in Hand	0.00	0.00	62065.64	86891.89	111718.15	124131.27
CURRENT ASSETS	0.00	0.00	2361588.37	3306223.72	4250859.07	4723176.74
4. Current Liabilities	0.00	0.00	1022727.27	1431818.18	1840909.09	2045454.55
Accounts Payable	0.00	0.00	1022727.27	1431818.18	1840909.09	2045454.55
TOTAL NET WORKING CAPITAL REQUIRMENTS	0.00	0.00	1338861.10	1874405.54	2409949.98	2677722.20
INCREASE IN NET WORKING CAPITAL	0.00	0.00	1338861.10	535544.44	535544.44	267772.22

Annex 1: Total Net Working Capital Requirements (in Birr) (continued)

	PRODUCTION					
	5	6	7	8	9	10
Capacity Utilization (%)	100%	100%	100%	100%	100%	100%
1. Total Inventory	3982354.56	3982354.56	3982354.56	3982354.56	3982354.56	3982354.56
Raw Materials in Stock-Total	1428763.64	1428763.64	1428763.64	1428763.64	1428763.64	1428763.64
Raw Material-Local	1230000.00	1230000.00	1230000.00	1230000.00	1230000.00	1230000.00
Raw Material-Foreign	198763.64	198763.64	198763.64	198763.64	198763.64	198763.64
Factory Supplies in Stock	14591.38	14591.38	14591.38	14591.38	14591.38	14591.38
Spare Parts in Stock and Maintenance	15882.55	15882.55	15882.55	15882.55	15882.55	15882.55
Work in Progress	364784.45	364784.45	364784.45	364784.45	364784.45	364784.45
Finished Products	729568.91	729568.91	729568.91	729568.91	729568.91	729568.91
2. Accounts Receivable	2045454.55	2045454.55	2045454.55	2045454.55	2045454.55	2045454.55
3. Cash in Hand	124131.27	124131.27	124131.27	124131.27	124131.27	124131.27
CURRENT ASSETS	4723176.74	4723176.74	4723176.74	4723176.74	4723176.74	4723176.74
4. Current Liabilities	2045454.55	2045454.55	2045454.55	2045454.55	2045454.55	2045454.55
Accounts Payable	2045454.55	2045454.55	2045454.55	2045454.55	2045454.55	2045454.55
TOTAL NET WORKING CAPITAL REQUIRMENTS	2677722.20	2677722.20	2677722.20	2677722.20	2677722.20	2677722.20
INCREASE IN NET WORKING CAPITAL	0.00	0.00	0.00	0.00	0.00	0.00

Annex 2: Cash Flow Statement (in Birr)						
	CONSTRUCTION		PRODUCTION			
	Year 1	Year 2	1	2	3	4
TOTAL CASH INFLOW	2547825.00	5225547.20	10397727.27	13534090.91	17284090.91	18954545.45
1. Inflow Funds	2547825.00	5225547.20	1022727.27	409090.91	409090.91	204545.45
Total Equity	1019130.00	2090218.88	0.00	0.00	0.00	0.00
Total Long Term Loan	1528695.00	3135328.32	0.00	0.00	0.00	0.00
Total Short Term Finances	0.00	0.00	1022727.27	409090.91	409090.91	204545.45
2. Inflow Operation	0.00	0.00	9375000.00	13125000.00	16875000.00	18750000.00
Sales Revenue	0.00	0.00	9375000.00	13125000.00	16875000.00	18750000.00
Interest on Securities	0.00	0.00	0.00	0.00	0.00	0.00
3. Other Income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	2547825.00	2547825.00	10106867.75	11433097.38	15199702.01	16134736.71
4. Increase In Fixed Assets	2547825.00	2547825.00	0.00	0.00	0.00	0.00
Fixed Investments	2426500.00	2426500.00	0.00	0.00	0.00	0.00
Pre-production Expenditures	121325.00	121325.00	0.00	0.00	0.00	0.00
5. Increase in Current Assets	0.00	0.00	2361588.37	944635.35	944635.35	472317.67
6. Operating Costs	0.00	0.00	6551017.15	9151442.01	11751866.87	13052079.30
7. Corporate Tax Paid	0.00	0.00	0.00	0.00	1259460.24	1459880.65
8. Interest Paid	0.00	0.00	1194262.23	559682.80	466402.33	373121.87
9. Loan Repayments	0.00	0.00	0.00	777337.22	777337.22	777337.22
10. Dividends Paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus(Deficit)	0.00	2677722.20	290859.52	2100993.53	2084388.90	2819808.74
Cumulative Cash Balance	0.00	2677722.20	2968581.72	5069575.25	7153964.15	9973772.90

Annex 2: Cash Flow Statement (in Birr): Continued						
	PRODUCTION					
	5	6	7	8	9	10
TOTAL CASH INFLOW	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00
1. Inflow Funds	0.00	0.00	0.00	0.00	0.00	0.00
Total Equity	0.00	0.00	0.00	0.00	0.00	0.00
Total Long Term Loan	0.00	0.00	0.00	0.00	0.00	0.00
Total Short Term Finances	0.00	0.00	0.00	0.00	0.00	0.00
2. Inflow Operation	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00
Sales Revenue	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00
Interest on Securities	0.00	0.00	0.00	0.00	0.00	0.00
3. Other Income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	15597122.71	15561385.38	15496089.06	14653455.51	14653455.51	14653455.51
4. Increase In Fixed Assets	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Investments	0.00	0.00	0.00	0.00	0.00	0.00
Pre-production Expenditures	0.00	0.00	0.00	0.00	0.00	0.00
5. Increase in Current Assets	0.00	0.00	0.00	0.00	0.00	0.00
6. Operating Costs	13052079.30	13052079.30	13052079.30	13052079.30	13052079.30	13052079.30
7. Corporate Tax Paid	1487864.79	1545407.93	1573392.07	1601376.21	1601376.21	1601376.21
8. Interest Paid	279841.40	186560.93	93280.47	0.00	0.00	0.00
9. Loan Repayments	777337.22	777337.22	777337.22	0.00	0.00	0.00
10.Dividends Paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus(Deficit)	3152877.29	3188614.62	3253910.94	4096544.49	4096544.49	4096544.49
Cumulative Cash Balance	13126650.19	16315264.80	19569175.75	23665720.24	27762264.73	31858809.22

Annex 3: DISCOUNTED CASH FLOW-TOTAL CAPITAL INVESTED						
	CONSTRUCTION		PRODUCTION			
	Year 1	Year 2	1	2	3	4
TOTAL CASH INFLOW	0.00	0.00	9375000.00	13125000.00	16875000.00	18750000.00
1. Inflow Operation	0.00	0.00	9375000.00	13125000.00	16875000.00	18750000.00
Sales Revenue	0.00	0.00	9375000.00	13125000.00	16875000.00	18750000.00
Interest on Securities	0.00	0.00	0.00	0.00	0.00	0.00
2. Other Income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	2547825.00	2547825.00	7889878.25	9686986.45	13546871.55	14779732.17
3. Increase in Fixed Assets	2547825.00	2547825.00	0.00	0.00	0.00	0.00
Fixed Investments	2426500.00	2426500.00	0.00	0.00	0.00	0.00
Pre-production Expenditures	121325.00	121325.00	0.00	0.00	0.00	0.00
4. Increase in Net Working Capital	0.00	0.00	1338861.10	535544.44	535544.44	267772.22
5. Operating Costs	0.00	0.00	6551017.15	9151442.01	11751866.87	13052079.30
6. Corporate Tax Paid	0.00	0.00	0.00	0.00	1259460.24	1459880.65
NET CASH FLOW	-2547825.00	-2547825.00	1485121.75	3438013.55	3328128.45	3970267.83
CUMMULATIVE NET CASH FLOW	-2547825.00	-5095650.00	-3610528.25	-172514.70	3155613.75	7125881.58
Net Present Value (at 18%)	-2547825.00	-2159173.73	1066591.32	2092481.19	1716611.63	1735440.66
Cumulative Net present Value	-2547825.00	-4706998.73	-3640407.41	-1547926.22	168685.41	1904126.07

Annex 3: DISCOUNTED CASH FLOW-TOTAL CAPITAL INVESTED (Continued)						
	PRODUCTION					
	5	6	7	8	9	10
TOTAL CASH INFLOW	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00
1. Inflow Operation	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00
Sales Revenue	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00
Interest on Securities	0.00	0.00	0.00	0.00	0.00	0.00
2. Other Income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	14539944.09	14597487.23	14625471.37	14653455.51	14653455.51	14653455.51
3. Increase in Fixed Assets	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Investments	0.00	0.00	0.00	0.00	0.00	0.00
Pre-production Expenditures	0.00	0.00	0.00	0.00	0.00	0.00
4. Increase in Net Working Capital	0.00	0.00	0.00	0.00	0.00	0.00
5. Operating Costs	13052079.30	13052079.30	13052079.30	13052079.30	13052079.30	13052079.30
6. Corporate Tax Paid	1487864.79	1545407.93	1573392.07	1601376.21	1601376.21	1601376.21
NET CASH FLOW	4210055.91	4152512.77	4124528.63	4096544.49	4096544.49	4096544.49
CUMMULATIVE NET CASH FLOW	11335937.49	15488450.26	19612978.89	23709523.38	27806067.87	31902612.36
Net Present Value (at 18%)	1559537.49	1303577.71	1097282.02	923590.83	782704.09	663308.55
Cumulative Net present Value	3463663.56	4767241.27	5864523.29	6788114.11	7570818.20	8234126.75
Net Present Value (at 18%)	8,234,126.75					
Internal Rate of Return	46.5%					

Annex 4: NET INCOME STATEMENT (in Birr)					
	PRODUCTION				
	1	2	3	4	5
Capacity Utilization (%)	50%	70%	90%	100%	100%
1. Total Income	9375000.00	13125000.00	16875000.00	18750000.00	18750000.00
Sales Revenue	9375000.00	13125000.00	16875000.00	18750000.00	18750000.00
Other Income	0.00	0.00	0.00	0.00	0.00
2. Less Variable Cost	6375638.15	8925893.41	11476148.67	12751276.30	12751276.30
VARIABLE MARGIN	2999361.85	4199106.59	5398851.33	5998723.70	5998723.70
(In % of Total Income)	31.99	31.99	31.99	31.99	31.99
3. Less Fixed Costs	633909.00	684078.60	734248.20	759333.00	759333.00
OPERATIONAL MARGIN	2365452.85	3515027.99	4664603.13	5239390.70	5239390.70
(In % of Total Income)	25.23	26.78	27.64	27.94	27.94
4. Less Cost of Finance	1194262.23	559682.80	466402.33	373121.87	279841.40
5. GROSS PROFIT	1171190.62	2955345.19	4198200.80	4866268.83	4959549.30
6. Income (Corporate) Tax	0.00	0.00	1259460.24	1459880.65	1487864.79
7. NET PROFIT	1171190.62	2955345.19	2938740.56	3406388.18	3471684.51
RATIOS (%)					
Gross Profit/Sales	12%	23%	25%	26%	26%
Net Profit After Tax/Sales	12%	23%	17%	18%	19%
Return on Investment	37%	50%	45%	49%	48%
Return on Equity	38%	95%	95%	110%	112%

Annex 4: NET INCOME STATEMENT (in Birr):Continued					
	PRODUCTION				
	6	7	8	9	10
Capacity Utilization (%)	100%	100%	100%	100%	100%
1. Total Income	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00
Sales Revenue	18750000.00	18750000.00	18750000.00	18750000.00	18750000.00
Other Income	0.00	0.00	0.00	0.00	0.00
2. Less Variable Cost	12751276.30	12751276.30	12751276.30	12751276.30	12751276.30
VARIABLE MARGIN	5998723.70	5998723.70	5998723.70	5998723.70	5998723.70
(In % of Total Income)	31.99	31.99	31.99	31.99	31.99
3. Less Fixed Costs	660803.00	660803.00	660803.00	660803.00	660803.00
OPERATIONAL MARGIN	5337920.70	5337920.70	5337920.70	5337920.70	5337920.70
(In % of Total Income)	28.47	28.47	28.47	28.47	28.47
4. Less Cost of Finance	186560.93	93280.47	0.00	0.00	0.00
5. GROSS PROFIT	5151359.77	5244640.23	5337920.70	5337920.70	5337920.70
6. Income (Corporate) Tax	1545407.93	1573392.07	1601376.21	1601376.21	1601376.21
7. NET PROFIT	3605951.84	3671248.16	3736544.49	3736544.49	3736544.49
RATIOS (%)					
Gross Profit/Sales	27%	28%	28%	28%	28%
Net Profit After Tax/Sales	19%	20%	20%	20%	20%
Return on Investment	49%	48%	48%	48%	48%
Return on Equity	116%	118%	120%	120%	120%

Annex 5: Projected Balance Sheet (in Birr)

	CONSTRUCTION		PRODUCTION			
	Year 1	Year 2	1	2	3	4
TOTAL ASSETS	2547825.00	7773372.20	9967290.09	12554388.97	15124883.22	17958479.64
1. Total Current Assets	0.00	2677722.20	5330170.09	8375798.97	11404823.22	14696949.64
Inventory on Materials and Supplies	0.00	0.00	729618.78	1021466.29	1313313.80	1459237.56
Work in Progress	0.00	0.00	182392.23	255349.12	328306.01	364784.45
Finished Products in Stock	0.00	0.00	364784.45	510698.24	656612.02	729568.91
Accounts Receivable	0.00	0.00	1022727.27	1431818.18	1840909.09	2045454.55
Cash in Hand	0.00	0.00	62065.64	86891.89	111718.15	124131.27
Cash Surplus, Finance Available	0.00	2677722.20	2968581.72	5069575.25	7153964.15	9973772.90
Securities	0.00	0.00	0.00	0.00	0.00	0.00
2. Total Fixed Assets, Net of Depreciation	2547825.00	5095650.00	4637120.00	4178590.00	3720060.00	3261530.00
Fixed Investment	0.00	2426500.00	4853000.00	4853000.00	4853000.00	4853000.00
Construction in Progress	2426500.00	2426500.00	0.00	0.00	0.00	0.00
Pre-Production Expenditure	121325.00	242650.00	242650.00	242650.00	242650.00	242650.00
Less Accumulated Depreciation	0.00	0.00	458530.00	917060.00	1375590.00	1834120.00
3. Accumulated Losses Brought Forward	0.00	0.00	0.00	0.00	0.00	0.00
4. Loss in Current Year	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL LIABILITIES	2547825.00	7773372.20	9967290.09	12554388.97	15124883.22	17958479.64
5. Total Current Liabilities	0.00	0.00	1022727.27	1431818.18	1840909.09	2045454.55
Accounts Payable	0.00	0.00	1022727.27	1431818.18	1840909.09	2045454.55
Bank Overdraft	0.00	0.00	0.00	0.00	0.00	0.00
6. Total Long-term Debt	1528695.00	4664023.32	4664023.32	3886686.10	3109348.88	2332011.66
Loan A	1528695.00	4664023.32	4664023.32	3886686.10	3109348.88	2332011.66
Loan B	0.00	0.00	0.00	0.00	0.00	0.00
7. Total Equity Capital	1019130.00	3109348.88	3109348.88	3109348.88	3109348.88	3109348.88
Ordinary Capital	1019130.00	3109348.88	3109348.88	3109348.88	3109348.88	3109348.88
Preference Capital	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies	0.00	0.00	0.00	0.00	0.00	0.00
8. Reserves, Retained Profits Brought Forward	0.00	0.00	0.00	1171190.62	4126535.81	7065276.37
9. Net Profit After Tax	0.00	0.00	1171190.62	2955345.19	2938740.56	3406388.18
Dividends Payable	0.00	0.00	0.00	0.00	0.00	0.00
Retained Profits	0.00	0.00	1171190.62	2955345.19	2938740.56	3406388.18

Annex 5: Projected Balance Sheet (in Birr): Continued

	PRODUCTION					
	5	6	7	8	9	10
TOTAL ASSETS	20652826.93	23481441.55	26375352.49	30111896.98	33848441.47	37584985.96
1. Total Current Assets	17849826.93	21038441.55	24292352.49	28388896.98	32485441.47	36581985.96
Inventory on Materials and Supplies	1459237.56	1459237.56	1459237.56	1459237.56	1459237.56	1459237.56
Work in Progress	364784.45	364784.45	364784.45	364784.45	364784.45	364784.45
Finished Products in Stock	729568.91	729568.91	729568.91	729568.91	729568.91	729568.91
Accounts Receivable	2045454.55	2045454.55	2045454.55	2045454.55	2045454.55	2045454.55
Cash in Hand	124131.27	124131.27	124131.27	124131.27	124131.27	124131.27
Cash Surplus, Finance Available	13126650.19	16315264.80	19569175.75	23665720.24	27762264.73	31858809.22
Securities	0.00	0.00	0.00	0.00	0.00	0.00
2. Total Fixed Assets, Net of Depreciation	2803000.00	2443000.00	2083000.00	1723000.00	1363000.00	1003000.00
Fixed Investment	4853000.00	4853000.00	4853000.00	4853000.00	4853000.00	4853000.00
Construction in Progress	0.00	0.00	0.00	0.00	0.00	0.00
Pre-Production Expenditure	242650.00	242650.00	242650.00	242650.00	242650.00	242650.00
Less Accumulated Depreciation	2292650.00	2652650.00	3012650.00	3372650.00	3732650.00	4092650.00
3. Accumulated Losses Brought Forward	0.00	0.00	0.00	0.00	0.00	0.00
4. Loss in Current Year	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL LIABILITIES	20652826.93	23481441.55	26375352.49	30111896.98	33848441.47	37584985.96
5. Total Current Liabilities	2045454.55	2045454.55	2045454.55	2045454.55	2045454.55	2045454.55
Accounts Payable	2045454.55	2045454.55	2045454.55	2045454.55	2045454.55	2045454.55
Bank Overdraft	0.00	0.00	0.00	0.00	0.00	0.00
6. Total Long-term Debt	1554674.44	777337.22	0.00	0.00	0.00	0.00
Loan A	1554674.44	777337.22	0.00	0.00	0.00	0.00
Loan B	0.00	0.00	0.00	0.00	0.00	0.00
7. Total Equity Capital	3109348.88	3109348.88	3109348.88	3109348.88	3109348.88	3109348.88
Ordinary Capital	3109348.88	3109348.88	3109348.88	3109348.88	3109348.88	3109348.88
Preference Capital	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies	0.00	0.00	0.00	0.00	0.00	0.00
8. Reserves, Retained Profits Brought Forward	10471664.56	13943349.07	17549300.90	21220549.07	24957093.56	28693638.05
9. Net Profit After Tax	3471684.51	3605951.84	3671248.16	3736544.49	3736544.49	3736544.49
Dividends Payable	0.00	0.00	0.00	0.00	0.00	0.00
Retained Profits	3471684.51	3605951.84	3671248.16	3736544.49	3736544.49	3736544.49