

Investment Office ANRS

**PROJECT PROFILE ON THE ESTABLISHMENT
OF POLYESTER FABRICS PRODUCING PLANT**

Development Studies Associates (DSA)

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1. Executive Summary

This project profile deals with polyester fabrics producing plant in Amhara National Regional State. The following presents the main findings of the study.

Demand projection divulges that the domestic demand for polyester fabrics is substantial and is increasing with time. Accordingly, the planned plant is set to produce 6 million meters annually. The total investment cost of the project including working capital is estimated at Birr 66.5 million and will create 154 jobs and Birr 1.5 million 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 20.5 % of capacity utilization and it will payback fully the initial investment less working capital in 3 years. The result further shows that the calculated IRR of the project is 26.5% with a NPV of Birr 45.1 million.

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

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

The polyester fiber is one of the synthetic fibers which has high strength and excellent resistance to chemicals, not to speak of being weather-proof. Compared with other fibers, it is characterized by a variety of excellent, elastic properties coupled with high heat resistance. Among synthetic fibers, it is next to nylon in its durability, resistance to tear and wear as well as to crimp. The polyester fiber is much more superior to natural or acrylic fibers in many respects. In tactile feeling, it gives a warm feeling since polyester is high in its elasticity but low in specific heat and heat conductivity in terms of thermal properties. Particularly, it is superbly soft in case of mixed spinning with wool, also having a superior property of mixed spinning with other fibers, in most cases in the ratio of more than 65 percent of polyester.

Polyester fabrics could be used for shirt, dress fabrics, suiting, etc. Polyester fabrics are durable press fabrics and they are suitable for the manufacture of numerous home furnishing articles such as bed sheets, curtain, pillowing and the like.

3. Market Study, Plant Capacity and Production Program

3.1 Market Study

3.1.1 Present Demand and Supply

The demand for polyester fabrics is currently met from domestic production as well as import from abroad. Available information shows that Arbaminch Textile Factory is the only factory in the country that produces polyester fabrics. The Factory had a capacity to produce 25 million square meters of grey polyester/cotton fabrics per year. However, data regarding the actual domestic production could not be availed. At the same time huge amount of polyester is imported every year. Available data show that the average import level has been 20 million meter square as shown in table 1 below.

Table 1: Import of Polyester Fabrics

Year	Import Level (in m ²)
1997/98	12,015,341
1998/99	20,076,490
1999/00	32,361,492
2000/01	37,037,193
2001/02	28,698,435
2002/03	23,748,519
2003/04	17,082,610
2004/05	9,341,949
2005/06	9,835,185
2006/07	10,438,227
Average	20,063,544

Source: Customs authority, (various yeas)

The above table shows that import of polyester fabrics had shown an increase up to 2001/02 and then continuously declined until 2004/05 which increased then after. However, even the lowest annual import record of 9.34 million m² is very large by any standard and shows the presence of attractive demand for the product. As the actual level of domestic production is not available, demand projection will be based on the import figure.

3.1.2 Projected Demand

Demand for polyester fabrics is highly dependent on the population growth since the majority of the rural population uses the product for the reasons stated earlier. Therefore, it can be assumed that the future demand for the product will increase by 3% in accordance with the population growth rate. Accordingly, the forecasted demand is given in table 2 below

Table 2: Projected Demand

Year	Demand (in m ²)
2007/08	10,751,374
2008/09	11,073,915
2009/10	11,406,132
2010/11	11,748,316
2011/12	12,100,766
2012/13	12,463,789
2013/14	12,837,703
2014/15	13,222,834
2016/17	13,619,519
2017/18	14,028,104
2018/19	14,448,947

According to the forecasted demand presented above, the demand for polyester fabrics constructed from import data shows a continuous increment. The actual demand in the country is higher than the above projections when the domestic production is considered.

3.1.3 Pricing and Distribution

In view of the market research result and the capacity of the envisaged plant, the selling price of a meter of polyester fabric is set Birr 11.8. The available wholesale network shall be used by the envisaged plant.

3.2 Plant Capacity

Based on the expected demand for polyester fabrics as presented earlier, and the planned technology, the envisaged plant is set to produce 6 million 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 2 shifts, where the remaining days will be holidays and for maintenance. During the first year of operation the plant will operate at 55 percent capacity and then it grows to 65 percent in the 2nd year. The capacity will grow to 75% in the 3rd year and 90 percent in the 4th year. This consideration is developed based on the assumption that technological, process, market and logistics constraints diminishes as time goes by.

4. Raw Materials and Utilities

4.1 Availability and Source of Raw Materials

The basic raw material needed for the production of polyester fabrics are polyester fiber, dyestuff, sizer (sizing chemical) and auxiliary materials. Except the auxiliary material, all the raw materials are imported.

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 3 Material and Utility Requirement

Material and Input	Quantity	Total Cost	
		L.C.	F.C.
Polyester Fiber	1,200 ton		21,600,000
Dyestuff	28,800 ton		1,296,000
Sizer	58,000 ton		870,000
Auxiliary Material		85,000	
Total Material Cost		85,000	23,766,000
Utility			
Electricity	24,094,470 kwh	13,251,958	
Furnace Oil (and lubricant)		1,200,000	
Water	400,000 m ³	1,060,000	
Total Utility Cost		15,511,958	

Thus, the annual material and utility requirement at full capacity of operation is estimated to be Birr 39,362,958.

5. Location and Site

The appropriate locations for the envisaged project, in view of the availability of input, infrastructure as well as market for the output are Bahir Dar and Combolcha.

6. Technology and Engineering

6.1 Production Process

The technological options available mainly correspond to the capacity of production. Regardless of the technology used the production process involves the following process.

The production process of fabric making is divided into four main groups, each group constituting a number of operations and machinery. The main processes are spinning, weaving, dyeing and finishing.

A. Spinning:

This process includes texture process, twisting process and sizing. In general it includes giving a special mechanical heat-setting treatment to the polyester filament/yarn, provide the weaving ability as well as to offer fabric the necessary strength and elasticity; align and prepare the weaver's beam in specified number of ends and length for weaving.

B. Weaving process

This involves: Weaving preparation (that include reed drawing, dropper pinning and weft pinn winding) and weaving.

C. Dyeing

This employs several piece dyeing methods under high pressure in either rope or open width. It also has hank-dyeing and cheese dyeing machines for yarn dyeing.

D. Finishing Process

This is to finish the dyed fabrics in accordance with the specified width, length, density and handle etc. by heat setting and adding chemical agents.

The alternative technological option available is related to the production of soft and fluffy knitted products of exceptional quality by a technology of weft-knitted fabrics. The knitting features obtained in this way raise the level of the clothing's comfort of usage. This advantageous effect is the result of working-in a stream of untwisted fibers instead of the traditional yarn into the knitted fabric. Nonetheless, this option is not adopted by the envisaged plant since the manufacturing costs are higher than those for the classical technology.

6.2 Machinery and Equipment

The machineries and equipment required for producing polyester fabrics is detailed in table 4 below.

Table 4: Machinery and Equipment

Machinery and Equipment	Quantity
Spinning	9
Weaving	6
Dyeing Process	5
Finishing Process	2

The total cost of machinery and equipment including freight insurance and bank cost is estimated to be about Birr 40 million.

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

Maintrade House Limited

Unit D, 10/F Dragon Center,
79 Wing Hong Street Cheung Sha Wan,
Kowloon - HK, China (Hong Kong S.A.R.)

Phone: +(852)-(2)-3108313

Fax: +(852)-(2)-3710997

Kin Wah Machine Co. Limited

Linhai Industrial Park, Dafeng Road Dani Industrial District,
Dongguan - 523 980, China

Phone: +(86)-(769)-85547838

Fax: +(86)-(769)-85546896

Hitech Engineering, Coimbatore

Chinna Thottam, Tharani Nagar Ganapathypudur,
8th Street Extension, Coimbatore - 641006, India

Phone: +(91)-(422)-2333119

Fax: +(91)-(422)-2333119

Website: <http://www.indiamart.com>

6.3 Civil Engineering Cost

The total site area for the envisaged plant is estimated to be 3,250m² of which 2,500m² is allocated to the production space and the remainder is left for stores (500m²), office buildings and facilities (250m²) and open space.

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
General Manager	1	5000	60,000
Production Manager	1	4000	48,000
Accountant	5	1500	90,000
Secretary	5	1200	72,000
Engineers	2	2500	60,000
Textile technologist	2	1500	36,000
Sales Clerk	4	600	28,800
Chemist	2	1500	36,000
Store Keeper	6	600	43,200
Technicians	6	1500	108,000
Supervisors	6	1500	108,000
Operators	40	600	288,000
Daily Laborers	50	300	180,000
Cleaners	6	300	21,600
Messengers	3	300	10,800
Driver	5	600	36,000
Guards	10	300	36,000
Benefit (20%)			252,480
Total	154		1,514,880

The envisaged plant, therefore, creates 154 jobs and about Birr 1.5 million 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 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 150,000 will be allocated as training expense.

8 Financial Analysis

8.1 Underlying Assumption

The financial analysis of polyester fabrics producing 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	3% 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 65.05 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	9,750		9,750
Building and civil works	6,500,000		6,500,000
Office equipment	0		0
Vehicles	0		0
Plant machinery & equipment	2,500,000	37,500,000	40,000,000
<i>Total fixed investment cost</i>	<i>9,009,750</i>	<i>37,500,000</i>	<i>46,509,750</i>
Pre production capital expenditure*	2,325,488		2,325,488
<i>Total initial investment</i>	<i>11,335,238</i>	<i>37,500,000</i>	<i>48,835,238</i>
Working capital at full capacity	5,843,808	10,370,618	16,214,426
Total	17,179,045	47,870,618	65,049,663

**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 73.6% of the total investment cost.

8.3 Production Costs

The total production cost at full capacity operation is estimated at Birr 50.03 million as detailed in table 6 below.

Table 6: Production Cost

Items	Cost
1. Raw materials	23,851,000
2. Utilities	15,511,958
3. Wages and Salaries	1,514,880
4. Spares and Maintenance	465,098
<i>Factory costs</i>	<i>41,342,936</i>
5. Depreciation	4,790,098
6. Financial costs	3,902,980
<i>Total Production Cost</i>	<i>50,036,013</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 2%, 3% and 19% 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 19.5% of capacity utilization.

III. Payback Period

Investment cost and income statement projection are used in estimating the project payback period. The projects will payback fully the initial investment less working capital in 3 years time.

IV. Simple Rate of Return

For the envisaged plant the simple rate of return equals to 27.1%.

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 27.3% and the net present value at 18 % discount is Birr 21,358,534.18.

VI. Sensitivity Analysis

The envisaged plant is to some extent sensitive when a considerable cost increment takes place. That is, the plant incurs loss of Birr 1.46 million in the first year of operation when 10 % cost increment takes place in the sector. The plant will earn modest profit starting from the second year of operation. This result is accompanied with payback period of 3 years and 2 months.

9 Economic and Social Benefit and Justification

The envisaged project possesses wide range of benefits that help promote the socio-economic goals and objectives stated in the strategic plan of the Amhara National Regional State. It also plays positive role in diversifying the economic activity by enhancing the industrial sector 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 13.17 million per year and Birr 131.7 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 52.2 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. Import Substitution and Foreign Exchange Saving

Based on the projected figure we learn that in the project life an estimated amount of US Dollar 62.6 million will be saved as a result of the proposed project. This will create room for the saved hard currency to be allocated to other vital and strategic sectors.

D. 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 154 professionals as well as support staff. Consequently the project creates income of Birr 1.51 million per year. This would be one of the commendable accomplishments of the project.

ANNEXES

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

	CONSTRUCTION		PRODUCTION			
	Year 1	Year 2	1	2	3	4
Capacity Utilization (%)	0.00	0.00	55%	65%	75%	90%
1. Total Inventory	0.00	0.00	13605263.85	16078948.19	18552632.53	22263159.04
Raw Materials in Stock- Total	0.00	0.00	5708940.00	6746929.09	7784918.18	9341901.82
Raw Material-Local	0.00	0.00	5100.00	6027.27	6954.55	8345.45
Raw Material-Foreign	0.00	0.00	5703840.00	6740901.82	7777963.64	9333556.36
Factory Supplies in Stock	0.00	0.00	27679.82	32712.51	37745.21	45294.25
Spare Parts in Stock and Maintenance	0.00	0.00	83717.55	98938.92	114160.30	136992.35
Work in Progress	0.00	0.00	691995.50	817812.86	943630.22	1132356.26
Finished Products	0.00	0.00	1383990.99	1635625.72	1887260.44	2264712.53
2. Accounts Receivable	0.00	0.00	4248000.00	5020363.64	5792727.27	6951272.73
3. Cash in Hand	0.00	0.00	1021610.28	1207357.60	1393104.93	1671725.91
CURRENT ASSETS	0.00	0.00	13165934.13	15559740.34	17953546.55	21544255.86
4. Current Liabilities	0.00	0.00	4248000.00	5020363.64	5792727.27	6951272.73
Accounts Payable	0.00	0.00	4248000.00	5020363.64	5792727.27	6951272.73
TOTAL NET WORKING CAPITAL REQUIRMENTS	0.00	0.00	8917934.13	10539376.70	12160819.27	14592983.13
INCREASE IN NET WORKING CAPITAL	0.00	0.00	8917934.13	1621442.57	1621442.57	2432163.85

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	24736843.37	24736843.37	24736843.37	24736843.37	24736843.37	24736843.37
Raw Materials in Stock-Total	10379890.91	10379890.91	10379890.91	10379890.91	10379890.91	10379890.91
Raw Material-Local	9272.73	9272.73	9272.73	9272.73	9272.73	9272.73
Raw Material-Foreign	10370618.18	10370618.18	10370618.18	10370618.18	10370618.18	10370618.18
Factory Supplies in Stock	50326.95	50326.95	50326.95	50326.95	50326.95	50326.95
Spare Parts in Stock and Maintenance	152213.73	152213.73	152213.73	152213.73	152213.73	152213.73
Work in Progress	1258173.63	1258173.63	1258173.63	1258173.63	1258173.63	1258173.63
Finished Products	2516347.25	2516347.25	2516347.25	2516347.25	2516347.25	2516347.25
2. Accounts Receivable	7723636.36	7723636.36	7723636.36	7723636.36	7723636.36	7723636.36
3. Cash in Hand	1857473.24	1857473.24	1857473.24	1857473.24	1857473.24	1857473.24
CURRENT ASSETS	23938062.06	23938062.06	23938062.06	23938062.06	23938062.06	23938062.06
4. Current Liabilities	7723636.36	7723636.36	7723636.36	7723636.36	7723636.36	7723636.36
Accounts Payable	7723636.36	7723636.36	7723636.36	7723636.36	7723636.36	7723636.36
TOTAL NET WORKING CAPITAL REQUIRMENTS	16214425.70	16214425.70	16214425.70	16214425.70	16214425.70	16214425.70
INCREASE IN NET WORKING CAPITAL	1621442.57	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	24417618.75	40632044.45	43188000.00	46792363.64	53872363.64	64878545.45
1. Inflow Funds	24417618.75	40632044.45	4248000.00	772363.64	772363.64	1158545.45
Total Equity	9767047.50	16252817.78	0.00	0.00	0.00	0.00
Total Long Term Loan	14650571.25	24379226.67	0.00	0.00	0.00	0.00
Total Short Term Finances	0.00	0.00	4248000.00	772363.64	772363.64	1158545.45
2. Inflow Operation	0.00	0.00	38940000.00	46020000.00	53100000.00	63720000.00
Sales Revenue	0.00	0.00	38940000.00	46020000.00	53100000.00	63720000.00
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	24417618.75	24417618.75	46538776.16	40922536.44	48155702.63	56332801.24
4. Increase In Fixed Assets	24417618.75	24417618.75	0.00	0.00	0.00	0.00
Fixed Investments	23254875.00	23254875.00	0.00	0.00	0.00	0.00
Pre-production Expenditures	1162743.75	1162743.75	0.00	0.00	0.00	0.00
5. Increase in Current Assets	0.00	0.00	13165934.13	2393806.21	2393806.21	3590709.31
6. Operating Costs	0.00	0.00	23206271.33	27340188.16	31474105.00	37674980.25
7. Corporate Tax Paid	0.00	0.00	0.00	0.00	3879845.31	5439761.53
8. Interest Paid	0.00	0.00	10166570.70	4683575.75	3902979.79	3122383.83
9.Loan Repayments	0.00	0.00	0.00	6504966.32	6504966.32	6504966.32
10.Dividends Paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus(Deficit)	0.00	16214425.70	-3350776.16	5869827.20	5716661.01	8545744.22
Cumulative Cash Balance	0.00	16214425.70	12863649.54	18733476.73	24450137.74	32995881.96

Annex 2: Cash Flow Statement (in Birr): Continued						
	PRODUCTION					
	5	6	7	8	9	10
TOTAL CASH INFLOW	71572363.64	70800000.00	70800000.00	70800000.00	70800000.00	70800000.00
1. Inflow Funds	772363.64	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	772363.64	0.00	0.00	0.00	0.00	0.00
2. Inflow Operation	70800000.00	70800000.00	70800000.00	70800000.00	70800000.00	70800000.00
Sales Revenue	70800000.00	70800000.00	70800000.00	70800000.00	70800000.00	70800000.00
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	59607222.74	56806528.62	56260111.45	49208727.96	49208727.96	49208727.96
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	2393806.21	0.00	0.00	0.00	0.00	0.00
6. Operating Costs	41808897.08	41808897.08	41808897.08	41808897.08	41808897.08	41808897.08
7. Corporate Tax Paid	6557765.26	6931473.30	7165652.09	7399830.88	7399830.88	7399830.88
8. Interest Paid	2341787.88	1561191.92	780595.96	0.00	0.00	0.00
9. Loan Repayments	6504966.32	6504966.32	6504966.32	0.00	0.00	0.00
10.Dividends Paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus(Deficit)	11965140.89	13993471.38	14539888.55	21591272.04	21591272.04	21591272.04
Cumulative Cash Balance	44961022.85	58954494.23	73494382.79	95085654.83	116676926.87	138268198.92

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	38940000.00	46020000.00	53100000.00	63720000.00
1. Inflow Operation	0.00	0.00	38940000.00	46020000.00	53100000.00	63720000.00
Sales Revenue	0.00	0.00	38940000.00	46020000.00	53100000.00	63720000.00
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	24417618.75	24417618.75	32124205.47	28961630.73	33095547.57	45546905.63
3. Increase in Fixed Assets	24417618.75	24417618.75	0.00	0.00	0.00	0.00
Fixed Investments	23254875.00	23254875.00	0.00	0.00	0.00	0.00
Pre-production Expenditures	1162743.75	1162743.75	0.00	0.00	0.00	0.00
4. Increase in Net Working Capital	0.00	0.00	8917934.13	1621442.57	1621442.57	2432163.85
5. Operating Costs	0.00	0.00	23206271.33	27340188.16	31474105.00	37674980.25
6. Corporate Tax Paid	0.00	0.00	0.00	0.00	3879845.31	5439761.53
NET CASH FLOW	-24417618.75	-24417618.75	6815794.53	17058369.27	20004452.43	18173094.37
CUMMULATIVE NET CASH FLOW	-24417618.75	-48835237.50	-42019442.97	-24961073.70	-4956621.27	13216473.10
Net Present Value (at 18%)	-24417618.75	-20692897.25	4894997.51	10382250.17	10318074.02	7943627.04
Cumulative Net present Value	-24417618.75	-45110516.00	-40215518.49	-29833268.31	-19515194.29	-11571567.26

Annex 3: DISCOUNTED CASH FLOW-TOTAL CAPITAL INVESTED (Continued)						
	PRODUCTION					
	5	6	7	8	9	10
TOTAL CASH INFLOW	70800000.00	70800000.00	70800000.00	70800000.00	70800000.00	70800000.00
1. Inflow Operation	70800000.00	70800000.00	70800000.00	70800000.00	70800000.00	70800000.00
Sales Revenue	70800000.00	70800000.00	70800000.00	70800000.00	70800000.00	70800000.00
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	49988104.91	48740370.38	48974549.17	49208727.96	49208727.96	49208727.96
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	1621442.57	0.00	0.00	0.00	0.00	0.00
5. Operating Costs	41808897.08	41808897.08	41808897.08	41808897.08	41808897.08	41808897.08
6. Corporate Tax Paid	6557765.26	6931473.30	7165652.09	7399830.88	7399830.88	7399830.88
NET CASH FLOW	20811895.09	22059629.62	21825450.83	21591272.04	21591272.04	21591272.04
CUMMULATIVE NET CASH FLOW	34028368.19	56087997.81	77913448.64	99504720.69	121095992.73	142687264.77
Net Present Value (at 18%)	7709382.33	6925069.96	5806402.86	4867883.36	4125324.88	3496038.04
Cumulative Net present Value	-3862184.93	3062885.03	8869287.90	13737171.26	17862496.14	21358534.18
Net Present Value (at 18%)	21,358,534.18					
Internal Rate of Return	27.3%					

Annex 4: NET INCOME STATEMENT (in Birr)					
	PRODUCTION				
	1	2	3	4	5
Capacity Utilization (%)	55%	65%	75%	90%	100%
1. Total Income	38940000.00	46020000.00	53100000.00	63720000.00	70800000.00
Sales Revenue	38940000.00	46020000.00	53100000.00	63720000.00	70800000.00
Other Income	0.00	0.00	0.00	0.00	0.00
2. Less Variable Cost	22403268.98	26476590.61	30549912.25	36659894.70	40733216.33
VARIABLE MARGIN	16536731.02	19543409.39	22550087.75	27060105.30	30066783.67
(In % of Total Income)	42.47	42.47	42.47	42.47	42.47
3. Less Fixed Costs	5593099.85	5653695.05	5714290.25	5805183.05	5865778.25
OPERATIONAL MARGIN	10943631.17	13889714.34	16835797.50	21254922.25	24201005.42
(In % of Total Income)	28.10	30.18	31.71	33.36	34.18
4. Less Cost of Finance	10166570.70	4683575.75	3902979.79	3122383.83	2341787.88
5. GROSS PROFIT	777060.47	9206138.59	12932817.71	18132538.42	21859217.54
6. Income (Corporate) Tax	0.00	0.00	3879845.31	5439761.53	6557765.26
7. NET PROFIT	777060.47	9206138.59	9052972.40	12692776.89	15301452.28
RATIOS (%)					
Gross Profit/Sales	2%	20%	24%	28%	31%
Net Profit After Tax/Sales	2%	20%	17%	20%	22%
Return on Investment	19%	23%	21%	25%	27%
Return on Equity	3%	35%	35%	49%	59%

Annex 4: NET INCOME STATEMENT (in Birr):Continued					
	PRODUCTION				
	6	7	8	9	10
Capacity Utilization (%)	100%	100%	100%	100%	100%
1. Total Income	70800000.00	70800000.00	70800000.00	70800000.00	70800000.00
Sales Revenue	70800000.00	70800000.00	70800000.00	70800000.00	70800000.00
Other Income	0.00	0.00	0.00	0.00	0.00
2. Less Variable Cost	40733216.33	40733216.33	40733216.33	40733216.33	40733216.33
VARIABLE MARGIN	30066783.67	30066783.67	30066783.67	30066783.67	30066783.67
(In % of Total Income)	42.47	42.47	42.47	42.47	42.47
3. Less Fixed Costs	5400680.75	5400680.75	5400680.75	5400680.75	5400680.75
OPERATIONAL MARGIN	24666102.92	24666102.92	24666102.92	24666102.92	24666102.92
(In % of Total Income)	34.84	34.84	34.84	34.84	34.84
4. Less Cost of Finance	1561191.92	780595.96	0.00	0.00	0.00
5. GROSS PROFIT	23104911.00	23885506.96	24666102.92	24666102.92	24666102.92
6. Income (Corporate) Tax	6931473.30	7165652.09	7399830.88	7399830.88	7399830.88
7. NET PROFIT	16173437.70	16719854.87	17266272.04	17266272.04	17266272.04
RATIOS (%)					
Gross Profit/Sales	33%	34%	35%	35%	35%
Net Profit After Tax/Sales	23%	24%	24%	24%	24%
Return on Investment	27%	27%	27%	27%	27%
Return on Equity	62%	64%	66%	66%	66%

Annex 5: Projected Balance Sheet (in Birr)

	CONSTRUCTION		PRODUCTION			
	Year 1	Year 2	1	2	3	4
TOTAL ASSETS	24417618.75	65049663.20	70074723.67	73548259.57	76868629.29	84214985.32
1. Total Current Assets	0.00	16214425.70	26029583.67	34293217.07	42403684.29	54540137.82
Inventory on Materials and Supplies	0.00	0.00	5820337.37	6878580.53	7936823.69	9524188.42
Work in Progress	0.00	0.00	691995.50	817812.86	943630.22	1132356.26
Finished Products in Stock	0.00	0.00	1383990.99	1635625.72	1887260.44	2264712.53
Accounts Receivable	0.00	0.00	4248000.00	5020363.64	5792727.27	6951272.73
Cash in Hand	0.00	0.00	1021610.28	1207357.60	1393104.93	1671725.91
Cash Surplus, Finance Available	0.00	16214425.70	12863649.54	18733476.73	24450137.74	32995881.96
Securities	0.00	0.00	0.00	0.00	0.00	0.00
2. Total Fixed Assets, Net of Depreciation	24417618.75	48835237.50	44045140.00	39255042.50	34464945.00	29674847.50
Fixed Investment	0.00	23254875.00	46509750.00	46509750.00	46509750.00	46509750.00
Construction in Progress	23254875.00	23254875.00	0.00	0.00	0.00	0.00
Pre-Production Expenditure	1162743.75	2325487.50	2325487.50	2325487.50	2325487.50	2325487.50
Less Accumulated Depreciation	0.00	0.00	4790097.50	9580195.00	14370292.50	19160390.00
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	24417618.75	65049663.20	70074723.67	73548259.57	76868629.29	84214985.32
5. Total Current Liabilities	0.00	0.00	4248000.00	5020363.64	5792727.27	6951272.73
Accounts Payable	0.00	0.00	4248000.00	5020363.64	5792727.27	6951272.73
Bank Overdraft	0.00	0.00	0.00	0.00	0.00	0.00
6. Total Long-term Debt	14650571.25	39029797.92	39029797.92	32524831.60	26019865.28	19514898.96
Loan A	14650571.25	39029797.92	39029797.92	32524831.60	26019865.28	19514898.96
Loan B	0.00	0.00	0.00	0.00	0.00	0.00
7. Total Equity Capital	9767047.50	26019865.28	26019865.28	26019865.28	26019865.28	26019865.28
Ordinary Capital	9767047.50	26019865.28	26019865.28	26019865.28	26019865.28	26019865.28
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	777060.47	9983199.06	19036171.46
9. Net Profit After Tax	0.00	0.00	777060.47	9206138.59	9052972.40	12692776.89
Dividends Payable	0.00	0.00	0.00	0.00	0.00	0.00
Retained Profits	0.00	0.00	777060.47	9206138.59	9052972.40	12692776.89

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

	PRODUCTION					
	5	6	7	8	9	10
TOTAL ASSETS	93783834.91	103452306.30	113667194.85	130933466.89	148199738.94	165466010.98
1. Total Current Assets	68899084.91	82892556.30	97432444.85	119023716.89	140614988.94	162206260.98
Inventory on Materials and Supplies	10582431.58	10582431.58	10582431.58	10582431.58	10582431.58	10582431.58
Work in Progress	1258173.63	1258173.63	1258173.63	1258173.63	1258173.63	1258173.63
Finished Products in Stock	2516347.25	2516347.25	2516347.25	2516347.25	2516347.25	2516347.25
Accounts Receivable	7723636.36	7723636.36	7723636.36	7723636.36	7723636.36	7723636.36
Cash in Hand	1857473.24	1857473.24	1857473.24	1857473.24	1857473.24	1857473.24
Cash Surplus, Finance Available	44961022.85	58954494.23	73494382.79	95085654.83	116676926.87	138268198.92
Securities	0.00	0.00	0.00	0.00	0.00	0.00
2. Total Fixed Assets, Net of Depreciation	24884750.00	20559750.00	16234750.00	11909750.00	7584750.00	3259750.00
Fixed Investment	46509750.00	46509750.00	46509750.00	46509750.00	46509750.00	46509750.00
Construction in Progress	0.00	0.00	0.00	0.00	0.00	0.00
Pre-Production Expenditure	2325487.50	2325487.50	2325487.50	2325487.50	2325487.50	2325487.50
Less Accumulated Depreciation	23950487.50	28275487.50	32600487.50	36925487.50	41250487.50	45575487.50
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	93783834.91	103452306.30	113667194.85	130933466.89	148199738.94	165466010.98
5. Total Current Liabilities	7723636.36	7723636.36	7723636.36	7723636.36	7723636.36	7723636.36
Accounts Payable	7723636.36	7723636.36	7723636.36	7723636.36	7723636.36	7723636.36
Bank Overdraft	0.00	0.00	0.00	0.00	0.00	0.00
6. Total Long-term Debt	13009932.64	6504966.32	0.00	0.00	0.00	0.00
Loan A	13009932.64	6504966.32	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	26019865.28	26019865.28	26019865.28	26019865.28	26019865.28	26019865.28
Ordinary Capital	26019865.28	26019865.28	26019865.28	26019865.28	26019865.28	26019865.28
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	31728948.35	47030400.63	63203838.33	79923693.21	97189965.25	114456237.29
9. Net Profit After Tax	15301452.28	16173437.70	16719854.87	17266272.04	17266272.04	17266272.04
Dividends Payable	0.00	0.00	0.00	0.00	0.00	0.00
Retained Profits	15301452.28	16173437.70	16719854.87	17266272.04	17266272.04	17266272.04