

Investment Office ANRS

**PROJECT PROFILE ON THE ESTABLISHMENT
OF COTTON YARN MAKING PLANT**

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1. Executive Summary

The project envisages production of 400 tons of *Cotton Yarn* per annum. The total investment requirement of the project including the working capital is estimated at about Birr 8.1 million; of which 4 million is for building and construction, Birr 2.5 million is for machinery and equipments, and Birr 934 thousand is the cost of the working capital. Based on the cash flow statement, the calculated internal rate of return (IRR) of the project is 39.4 % and the net present value (NPV) at 18 % discounting rate is about Birr 6,564 thousand. The plant is expected to create employment opportunities for about 51 persons.

2. Product Description and Application

Cotton yarn is a type of yarn made from cotton fibers. Of various yarns in the world at present, the cotton yarn is predominant not only because it has many excellent properties in use but because it can be produced and supplied at stable and reasonable prices. Therefore, with a long history and accumulation of technical know-how as the largest textile industry of the world, the cotton yarn spinning industry has greatly improved its productivity based on modernized facilities.

Most woven fabrics and knitwear fabrics are made from cotton yarn which is made in textile spinning factories. Yarn is produced to be an input for the weaving department in textile mills and to be sold in the market to the handloom industry where it is made to traditional clothes for women and men.

3. Market Study, Plant Capacity and Production Program

3.1 Market Study

3.1.1 Present Demand and Supply

Almost all Ethiopian wear traditional clothes- such as *netela*, *gabi*, *kutta*, *buluko* and *others*- made from cotton yarn by traditional weavers using traditional or semi-modern

weaving machines. Besides, Ethiopian wear traditional dresses (*Ye Habesha Libse*) woven by traditional weavers made from cotton yarn. Such demand for cotton yarn in Ethiopia is met mainly from local suppliers who spin cotton manually in a very small scale at a household level. Moreover, currently, large numbers of newly emerging cottage industries (which are working on diversifying, upgrading and modernizing Ethiopian traditional costumes) are demanding large amount of cotton yarn as their major input. These cottage industries are being supplied by the existing textile factories which sell cotton yarn after satisfying their own requirement of yarn to produce cotton fabrics. The gap between the demand for yarn and the domestic supply is filled by imports; particularly in the recent year there is a huge surge in the cotton yarn imports. Unless there additional cotton yarn plants will be established in the country the import growth seems to continue.

Table 3.1
Domestic Production and Imports of Cotton Yarn

Year E.C	Domestic Production (In Kg)	Import (In Kg)
1990	2,657,000	-
1991	3,408,000	3,707
1992	3,977,000	2,625
1993	5,726,000	50
1994	7,736,000	-
1995	5,467,000	62
1996	5,487,000	2,342
1997	4,299,000	14,534
1998	9,193,000	446
1999	10,736,000	31,586
Total	58,686,000	
Average	5,668,600	

In the past decade, except the slight declines witnessed in 1995 E.C and 1997 E.C the local production of cotton yarn has exhibited a continues growth; which was computed to be 17 % per annum on average. During the period, the average annual local production of

cotton yarn was nearly 5,669 tons. If we consider the past five years alone, this figure increases to more than 7,036 tons. In parallel to this, the import in cotton yarn has shown a big surge in the past three years. The price of the imported cotton yarn is very large as compared to the price of the local yarn. This clearly justifies the immediate establishment of additional cotton yarn producing plants in the country.

There are only two textile mills in the whole ANRS; and one of them is about 50 years old with very little renovation during all these years. The two mills produce small quantities (up to 500 tons per year) of cotton yarn for the local market, but their yarn production is not sufficient to satisfy the yarn demand of the Region which is estimated to be more 2,500 tons of cotton yarn per annum.

As a result, large quantities of yarn are supplied to the Region from other parts of the country and via imports. With the existing two textile mills getting old and obsolete, the production of yarn from these factories will decrease. To supply the yarn requirement of the Region from Regional production, one medium scale spinning mill is needed.

Textile factories can be built either as integrated units (spinning and weaving) or as separate units like spinning or weaving. Spinning mills can have different capacities and still be viable. The yarn market in the ANRS can absorb the production of a small to medium spinning mill which can be viable technically and financially.

3.1.2 Projected Demand

As noted earlier cotton yarn based clothes are very common in rural and urban Ethiopia. It is believed that this favorable market situation will persist in the future. Since income rise and population growth rate affect the demand for cotton yarn based domestic products, 10 % annual growth rate is taken to project the future demand. Besides, by ignoring the highly fluctuating cotton yarn import, the local production of cotton yarn in the year 1999 E.C is taken as base year figure for the projection (See Table 3.3).

Table 3.3
Demand Projection for Cotton Yarn

Year E.C	National (In Tons)	ANRS (In Tons)
1999	10736	2684
2000	11810	2952
2001	12991	3248
2002	14290	3572
2003	15719	3930
2004	17290	4323
2005	19019	4755
2006	20921	5230
2007	23014	5753
2008	25315	6329
2009	27846	6962
2010	30631	7658

As it is seen in the above projection, the demand for cotton yarn at the national level is expected to reach at 19,019 tons in 2005 E.C and at 30,631 tons in 2010 while it is expected to reach at 4,755 tons and 7,658 ton in 2005 E.C and in 2010 E.C, respectively ,at ANRS level. This huge future demand clearly justifies the establishment of additional cotton yarn producing plant both at the regional and country level.

3.1.3 Pricing and Distribution

The price of imported cotton yarn ranges from Birr 20 to Birr 35 per Kg depends on the quality and country of origin. The wholesale price of the locally produced cotton yarn ranges from Birr 22 to Birr 25 per kg. The envisaged plant is assumed to sell its product to the wholesalers at Birr 22 per Kg. The product will find its market outlet through the existing textile and yarn distributors throughout the country.

3.2 Plant Capacity

Based on the available minimum economic capacity, it is envisaged to establish a plant with capacity of 400 ton per annum. The plant will operate 16 hours per day, in two shifts and 275 days per year. The working days are set by deducting Sundays and public holidays and assuming that annual maintenance works and unexpected work interruptions will take 25 days.

3.3 Production Program

Considering a little period needed for production skill development and market penetration, the capacity utilization rate in the first year is assumed to be 90 %; and it will be 100 % starting from the second year of the operation.

4. Raw Materials and Utilities

4.1 Availability and Source of Raw Materials

The land resources of the ANRS can produce all the cotton that the region needs to produce the textile fabrics and yarn requirement of the people. Of course, to produce this cotton, large scale cotton plantation should be allowed to be started in suitable areas of the region.

4.2 Annual Requirement and Cost of Raw Materials and Utilities

The major raw material is cotton fiber, and its annual requirement is indicated in Table 4.1. The total cost of raw material and other miscellaneous inputs is estimated to be Birr 3.5 million.

Table 4.1
ANNUAL RAW MATERIAL REQUIREMENT
(AT FULL CAPACITY)

No	Raw Material	Unit	Qty.	Cost(In Birr)		
				F.C	L.C	Total
1	Cotton Fiber	Tons	430		3,440,000	3,440,000
2	Miscellaneous Materials			12,000	8,000	20,000
Total				12,000	3,448,000	3,460,000

Electricity and water requirement is about 816 MWH and 1000 m³, respectively. Based on this, the total annual cost of utility at full capacity is equal to Birr 451,450.

Table 4.2
UTILITIES REQUIREMENT

No.	Utility	Requirement (Annual)	Unit Price	Cost (Birr)
1.	Electricity	816 MWH	Birr0.55 /KWH	448,800
2.	Water	1,000 m ³	Birr2.65 /m ³	2,650
Total				451,450

5. Location and Site

For its convenience to procure raw cotton, Gondor is an appropriate choice for the cotton yarn producing plant in the ANRS.

6. Technology and Engineering

6.1 Production Process

The major steps in the manufacturing process of cotton yarn are stack mixing, blow room carding, drawing open and spinning process, doubling cane winding and quality inspection.

With regard to alternative technology, instead of buying lint cotton as a raw material, it is possible to have a cotton ginnery plant that changes the raw cotton into lint cotton. This involves higher investment cost but it also brings additional profit.

6.2 Machinery and Equipment

The lists of machinery and equipments required to establish a cotton yarn producing plant is given below (Table 6.1).

TABLE 6.1
LIST OF MACHINERY AND EQUIPMENT

Name	No.
1. Open End Rotor Machine	1Set
2. Humidification Plant	1Set
3. Carding Plant	1Set
4. Mixing Bale Operator	1Set
5. De-dusting Unit	1Set
6. SHS Draw Frame with 4 Deliveries	1Set
7. Cotton Weighing Machine	1Set
8. Combined Delivery Apparatus for One MBO	1Set
9. ERM Cleaners	
10. 2-Way Distributor	

The total cost of machinery and equipment is estimated at Birr 2.5 million of which Birr 2.2 million is in foreign currency and Birr 300,000 in local currency.

Machinery Suppliers Address:

Company Name : Ozelik Textile Machinery and Die Casting Co.

Product : Spinning Machine

Location : Ornek Sanayi Sitesi 12 St. No. 3, Kusget, Gazianep, Turkey

6.3 Civil Engineering Cost

The building area required by the plant is estimated to be 2000m², and it costs Birr 4,000,000. This would include cost of land preparation and associated civil works. The total land area of the plant, including the open space, is 5000 m² and its lease cost equals Birr 300,000. The cost of the land lease is as per ANRS land lease rate for Gondor which is equal to Birr 60 per square meter for industrial purpose. Of the total cost of the lease 5 % is paid in the beginning while the rest will be paid in 40years.

7. Human Resource and Training Requirement

7.1 Human Resource

Details of the manpower requirement of the plant is shown in Table 7.1

Table 7.1
MANPOWER REQUIREMENT

Description	No	Monthly Salary (Birr)	Annual Salary (Birr)
A. Administration			
1. Manager	1	3000	36000
2. Supervisors(Sift Leaders)	2	1000	24000
3. Technicians	6	1000	72000
4. Personnel Officer	1	1000	12000
5. Accountant	1	1000	12000
6. Seretary	1	800	9600
7. Slaesman	1	800	9600
8. Cashier	1	600	7200
9. Storekeeper	1	600	7200
10. Driver	1	600	7200
10. Guards	4	300	14400
Sub-total	20		211,200
B. Production			
1. Skilled workers (Operators)	21	600	151200
2. Unskilled Workers (Assistants and Laborers)	10	300	36000
Benefits (20%)			79,680
	51		478,080

The total annual wages and salary, including 20 % benefits, amount to Birr 478,080.

7.2 Training Requirement

One month on job training is required for the technical personnel. And this can be managed by hiring one or two experts in the area from the technology suppliers.

8. Financial Analysis

8.1 Underlying Assumption

The financial analysis of *Cotton Yarn* producing plant is based on the data provided in the preceding chapters 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 the 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 Days
Raw Material-Foreign	120 Days
Factory Supplies In Stock	30 Days
Spare Parts In Stock And Maintenance	30 Days
Work In Progress	10 Days
Finished Products	15 Days
Accounts Receivable	30 Days
Cash In Hand	30 Days
Accounts Payable	30 Days

8.2 Investment

The total investment cost of the project including working capital is estimated at Birr 8.1 million as shown in Table 8.1 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 8.1
Total Initial Investment

Items	L.C	F.C	Total
Land	15,000		15,000
Building and Civil Works	4,000,000		4,000,000
Office Equipment	100,000		100,000
Vehicles	250,000		250,000
Plant Machinery & Equipment	300,000	2,200,000	2,500,000
<i>Total Fixed Investment Cost</i>	4,665,000	2,200,000	6,865,000
Pre Production Capital Expenditure*	343,250		343,250
<i>Total Initial Investment</i>	5,008,250	2,200,000	7,208,250
Working Capital at Full Capacity	934,235		934,235
Total	5,942,485	2,200,000	8,142,485

**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 Birr 2.2 million or 27 % of the total investment cost.

8.3 Production Costs

The total production cost at full capacity operation is estimated at Birr 5.8 million (See Table 8.2). Raw materials and utilities account for 67.9 %.

Table 8.2
PRODUCTION COST AT FULL CAPACITY

Raw Material Requirement	Cost
1. Local Raw Materials	3,448,000
2. Foreign Raw Materials	12,000

Total Production Cost at full Capacity	
Items	Cost
1. Raw materials	3,460,000
2. Utilities	451,450
3. Wages and Salaries	478,080
4. Spares and Maintenance	205,950
<i>Factory Costs</i>	<i>4,595,480</i>
5. Depreciation	578,650
6. Financial Costs	586,259
<i>Total Production Cost</i>	<i>5,760,389</i>

8.4 Financial Evaluation

I. Profitability

According to the projected income statement (See Annex 4) the project will generate profit beginning from the first year of operation and increases on wards. The income statement and other profitability indicators also show that the project is viable.

II. Breakeven Analysis

The breakeven point of the projects is given by the formula:

$$\text{BEP} = \frac{\text{Fixed Cost}}{\text{Sale} - \text{Variable Cost}} \quad \text{at full capacity.}$$

The project will break even at 18.6 % 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 two years.

IV. Simple Rate of Return

The project's simple rate of return (SRR) is given by the formula:

$SRR = (\text{Net Profit} + \text{Interest}) / (\text{Total Investment Outlay})$ at full capacity utilization.

The SRR would be 32.9 % at full capacity utilization.

V. Internal Rate of Return and Net Present Value

Based on cash flow statement (See Annex 2) the calculated internal rate of return (IRR) of the project is 39.4 % and the net present value (NPV) at 18 % discount is Birr 6,564 thousands.

VI. Sensitivity Analysis

The sensitivity test result which undertaken by increasing the cost of production by 10 % still indicates that the project would be viable.

9. Economic and Social Benefits and Justification

Based on the foregoing presentation and analysis, we can learn that the proposed project possesses wide range of benefits that complement the financial feasibility obtained earlier. In general, the envisaged project promotes the socio-economic goals and objectives stated in the strategic plan of the Amhara National Regional State. These benefits are presented below:

A. Profit Generation

The project is found to be financially viable and earns on average a profit of Birr 2.5 million per year and Birr 25.2 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 8.6 million from corporate tax payment alone (i.e. excluding income tax, sales tax and VAT). Such result create 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 to several citizens of the country. That is, it will provide permanent employment to 51 professionals as well as support stuffs. Consequently the project creates income of Birr 478 thousands 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	75%	85%	100%	100%
1. Total Inventory	0.00	0.00	6937844.86	7862890.84	9250459.82	9250459.82
Raw Materials in Stock- Total	0.00	0.00	2648212.36	3001307.35	3530949.82	3530949.82
Raw Material-Local	0.00	0.00	276368.73	313217.89	368491.64	368491.64
Raw Material-Foreign	0.00	0.00	2371843.64	2688089.45	3162458.18	3162458.18
Factory Supplies in Stock	0.00	0.00	19871.44	22520.96	26495.25	26495.25
Spare Parts in Stock and Maintenance	0.00	0.00	131190.79	148682.90	174921.05	174921.05
Work in Progress	0.00	0.00	496785.97	563024.10	662381.29	662381.29
Finished Products	0.00	0.00	993571.94	1126048.19	1324762.58	1324762.58
2. Accounts Receivable	0.00	0.00	4009090.91	4543636.36	5345454.55	5345454.55
3. Cash in Hand	0.00	0.00	638749.64	723916.25	851666.18	851666.18
CURRENT ASSETS	0.00	0.00	8937473.04	10129136.12	11916630.72	11916630.72
4. Current Liabilities	0.00	0.00	4009090.91	4543636.36	5345454.55	5345454.55
Accounts Payable	0.00	0.00	4009090.91	4543636.36	5345454.55	5345454.55
TOTAL NET WORKING CAPITAL REQUIRMENTS	0.00	0.00	4928382.13	5585499.75	6571176.18	6571176.18
INCREASE IN NET WORKING CAPITAL	0.00	0.00	4928382.13	657117.62	985676.43	0.00

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	9250459.82	9250459.82	9250459.82	9250459.82	9250459.82	9250459.82
Raw Materials in Stock-Total	3530949.82	3530949.82	3530949.82	3530949.82	3530949.82	3530949.82
Raw Material-Local	368491.64	368491.64	368491.64	368491.64	368491.64	368491.64
Raw Material-Foreign	3162458.18	3162458.18	3162458.18	3162458.18	3162458.18	3162458.18
Factory Supplies in Stock	26495.25	26495.25	26495.25	26495.25	26495.25	26495.25
Spare Parts in Stock and Maintenance	174921.05	174921.05	174921.05	174921.05	174921.05	174921.05
Work in Progress	662381.29	662381.29	662381.29	662381.29	662381.29	662381.29
Finished Products	1324762.58	1324762.58	1324762.58	1324762.58	1324762.58	1324762.58
2. Accounts Receivable	5345454.55	5345454.55	5345454.55	5345454.55	5345454.55	5345454.55
3. Cash in Hand	851666.18	851666.18	851666.18	851666.18	851666.18	851666.18
CURRENT ASSETS	11916630.72	11916630.72	11916630.72	11916630.72	11916630.72	11916630.72
4. Current Liabilities	5345454.55	5345454.55	5345454.55	5345454.55	5345454.55	5345454.55
Accounts Payable	5345454.55	5345454.55	5345454.55	5345454.55	5345454.55	5345454.55
TOTAL NET WORKING CAPITAL REQUIRMENTS	6571176.18	6571176.18	6571176.18	6571176.18	6571176.18	6571176.18
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	28060252.50	34631428.68	40759090.91	42184545.45	49801818.18	49000000.00
1. Inflow Funds	28060252.50	34631428.68	4009090.91	534545.45	801818.18	0.00
Total Equity	11224101.00	13852571.47	0.00	0.00	0.00	0.00
Total Long Term Loan	16836151.50	20778857.21	0.00	0.00	0.00	0.00
Total Short Term Finances	0.00	0.00	4009090.91	534545.45	801818.18	0.00
2. Inflow Operation	0.00	0.00	36750000.00	41650000.00	49000000.00	49000000.00
Sales Revenue	0.00	0.00	36750000.00	41650000.00	49000000.00	49000000.00
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	28060252.50	28060252.50	33564289.75	28418448.40	37585717.43	35271612.70
4. Increase In Fixed Assets	28060252.50	28060252.50	0.00	0.00	0.00	0.00
Fixed Investments	26724050.00	26724050.00	0.00	0.00	0.00	0.00
Pre-production Expenditures	1336202.50	1336202.50	0.00	0.00	0.00	0.00
5. Increase in Current Assets	0.00	0.00	8937473.04	1191663.07	1787494.61	0.00
6. Operating Costs	0.00	0.00	14576320.86	16443816.17	19245059.14	19245059.14
7. Corporate Tax Paid	0.00	0.00	0.00	0.00	6522494.70	6748184.75
8. Interest Paid	0.00	0.00	10050495.85	4513801.04	3761500.87	3009200.70
9. Loan Repayments	0.00	0.00	0.00	6269168.12	6269168.12	6269168.12
10. Dividends Paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus(Deficit)	0.00	6571176.18	7194801.16	13766097.05	12216100.75	13728387.30
Cumulative Cash Balance	0.00	6571176.18	13765977.34	27532074.39	39748175.14	53476562.43

Annex 2: Cash Flow Statement (in Birr): Continued						
	PRODUCTION					
	5	6	7	8	9	10
TOTAL CASH INFLOW	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00
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	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00
Sales Revenue	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00
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	34745002.58	34486736.76	33960126.64	27164348.40	27164348.40	27164348.40
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	19245059.14	19245059.14	19245059.14	19245059.14	19245059.14	19245059.14
7. Corporate Tax Paid	6973874.80	7467909.15	7693599.21	7919289.26	7919289.26	7919289.26
8. Interest Paid	2256900.52	1504600.35	752300.17	0.00	0.00	0.00
9. Loan Repayments	6269168.12	6269168.12	6269168.12	0.00	0.00	0.00
10. Dividends Paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus(Deficit)	14254997.42	14513263.24	15039873.36	21835651.60	21835651.60	21835651.60
Cumulative Cash Balance	67731559.85	82244823.09	97284696.45	119120348.06	140955999.66	162791651.26

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	36750000.00	41650000.00	49000000.00	49000000.00
1. Inflow Operation	0.00	0.00	36750000.00	41650000.00	49000000.00	49000000.00
Sales Revenue	0.00	0.00	36750000.00	41650000.00	49000000.00	49000000.00
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	28060252.50	28060252.50	19504702.99	17100933.79	20230735.57	25993243.89
3. Increase in Fixed Assets	28060252.50	28060252.50	0.00	0.00	0.00	0.00
Fixed Investments	26724050.00	26724050.00	0.00	0.00	0.00	0.00
Pre-production Expenditures	1336202.50	1336202.50	0.00	0.00	0.00	0.00
4. Increase in Net Working Capital	0.00	0.00	4928382.13	657117.62	985676.43	0.00
5. Operating Costs	0.00	0.00	14576320.86	16443816.17	19245059.14	19245059.14
6. Corporate Tax Paid	0.00	0.00	0.00	0.00	0.00	6748184.75
NET CASH FLOW	-	-	17245297.01	24549066.21	28769264.43	23006756.11
CUMMULATIVE NET CASH FLOW	-	-	-	-	-	-
	28060252.50	56120505.00	38875207.99	14326141.78	14443122.66	37449878.77
Net Present Value (at 18%)	-	-	-	-	-	-
	28060252.50	23779875.00	12385303.80	14941319.59	14838866.54	10056465.13
Cumulative Net present Value	-	-	-	-	-	-
	28060252.50	51840127.50	39454823.70	24513504.11	-9674637.57	381827.57

Annex 3: DISCOUNTED CASH FLOW-TOTAL CAPITAL INVESTED (Continued)

	PRODUCTION					
	5	6	7	8	9	10
TOTAL CASH INFLOW	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00
1. Inflow Operation	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00
Sales Revenue	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00
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	26218933.94	26712968.29	26938658.35	27164348.40	27164348.40	27164348.40
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	19245059.14	19245059.14	19245059.14	19245059.14	19245059.14	19245059.14
6. Corporate Tax Paid	6973874.80	7467909.15	7693599.21	7919289.26	7919289.26	7919289.26
NET CASH FLOW	22781066.06	22287031.71	22061341.65	21835651.60	21835651.60	21835651.60
CUMMULATIVE NET CASH FLOW	60230944.83	82517976.53	104579318.19	126414969.79	148250621.39	170086272.99
Net Present Value (at 18%)	8438825.36	6996457.17	5869158.82	4922980.22	4172017.13	3535607.74
Cumulative Net present Value	8820652.93	15817110.10	21686268.92	26609249.14	30781266.27	34316874.01
Net Present Value (at 18%)	34,316,874.01					
Internal Rate of Return	32.4%					

Annex 4: NET INCOME STATEMENT (in Birr)					
	PRODUCTION				
	1	2	3	4	5
Capacity Utilization (%)	75%	85%	100%	100%	100%
1. Total Income	36750000.00	41650000.00	49000000.00	49000000.00	49000000.00
Sales Revenue	36750000.00	41650000.00	49000000.00	49000000.00	49000000.00
Other Income	0.00	0.00	0.00	0.00	0.00
2. Less Variable Cost	12502422.86	14169412.57	16669897.14	16669897.14	16669897.14
VARIABLE MARGIN	24247577.15	27480587.43	32330102.86	32330102.86	32330102.86
(In % of Total Income)	65.98	65.98	65.98	65.98	65.98
3. Less Fixed Costs	6325689.00	6526194.60	6826953.00	6826953.00	6826953.00
OPERATIONAL MARGIN	17921888.15	20954392.83	25503149.86	25503149.86	25503149.86
(In % of Total Income)	48.77	50.31	52.05	52.05	52.05
4. Less Cost of Finance	10050495.85	4513801.04	3761500.87	3009200.70	2256900.52
5. GROSS PROFIT	7871392.29	16440591.79	21741648.99	22493949.16	23246249.34
6. Income (Corporate) Tax	0.00	0.00	6522494.70	6748184.75	6973874.80
7. NET PROFIT	7871392.29	16440591.79	15219154.29	15745764.41	16272374.54
RATIOS (%)					
Gross Profit/Sales	21.42%	39.47%	44.37%	45.91%	47.44%
Net Profit After Tax/Sales	21.42%	39.47%	31.06%	32.13%	33.21%
Return on Investment	29.36%	33.96%	30.28%	29.92%	29.56%
Return on Equity	31.39%	65.56%	60.69%	62.79%	64.89%

Annex 4: NET INCOME STATEMENT (in Birr):Continued					
	PRODUCTION				
	6	7	8	9	10
Capacity Utilization (%)	100%	100%	100%	100%	100%
1. Total Income	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00
Sales Revenue	49000000.00	49000000.00	49000000.00	49000000.00	49000000.00
Other Income	0.00	0.00	0.00	0.00	0.00
2. Less Variable Cost	16669897.14	16669897.14	16669897.14	16669897.14	16669897.14
VARIABLE MARGIN	32330102.86	32330102.86	32330102.86	32330102.86	32330102.86
(In % of Total Income)	65.98	65.98	65.98	65.98	65.98
3. Less Fixed Costs	5932472.00	5932472.00	5932472.00	5932472.00	5932472.00
OPERATIONAL MARGIN	26397630.86	26397630.86	26397630.86	26397630.86	26397630.86
(In % of Total Income)	53.87	53.87	53.87	53.87	53.87
4. Less Cost of Finance	1504600.35	752300.17	0.00	0.00	0.00
5. GROSS PROFIT	24893030.51	25645330.69	26397630.86	26397630.86	26397630.86
6. Income (Corporate) Tax	7467909.15	7693599.21	7919289.26	7919289.26	7919289.26
7. NET PROFIT	17425121.36	17951731.48	18478341.60	18478341.60	18478341.60
RATIOS (%)					
Gross Profit/Sales	50.80%	52.34%	53.87%	53.87%	53.87%
Net Profit After Tax/Sales	35.56%	36.64%	37.71%	37.71%	37.71%
Return on Investment	30.19%	29.83%	29.47%	29.47%	29.47%
Return on Equity	69.49%	71.59%	73.69%	73.69%	73.69%

Annex 5: Projected Balance Sheet (in Birr)

	CONSTRUCTION		PRODUCTION			
	Year 1	Year 2	1	2	3	4
TOTAL ASSETS	28060252.50	62691681.18	74572164.38	85278133.50	95029937.86	104506534.16
1. Total Current Assets	0.00	6571176.18	22703450.38	37661210.50	51664805.86	65393193.16
Inventory on Materials and Supplies	0.00	0.00	2799274.59	3172511.21	3732366.12	3732366.12
Work in Progress	0.00	0.00	496785.97	563024.10	662381.29	662381.29
Finished Products in Stock	0.00	0.00	993571.94	1126048.19	1324762.58	1324762.58
Accounts Receivable	0.00	0.00	4009090.91	4543636.36	5345454.55	5345454.55
Cash in Hand	0.00	0.00	638749.64	723916.25	851666.18	851666.18
Cash Surplus, Finance Available	0.00	6571176.18	13765977.34	27532074.39	39748175.14	53476562.43
Securities	0.00	0.00	0.00	0.00	0.00	0.00
2. Total Fixed Assets, Net of Depreciation	28060252.50	56120505.00	51868714.00	47616923.00	43365132.00	39113341.00
Fixed Investment	0.00	26724050.00	53448100.00	53448100.00	53448100.00	53448100.00
Construction in Progress	26724050.00	26724050.00	0.00	0.00	0.00	0.00
Pre-Production Expenditure	1336202.50	2672405.00	2672405.00	2672405.00	2672405.00	2672405.00
Less Accumulated Depreciation	0.00	0.00	4251791.00	8503582.00	12755373.00	17007164.00
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	28060252.50	62691681.18	74572164.38	85278133.50	95029937.86	104506534.16
5. Total Current Liabilities	0.00	0.00	4009090.91	4543636.36	5345454.55	5345454.55
Accounts Payable	0.00	0.00	4009090.91	4543636.36	5345454.55	5345454.55
Bank Overdraft	0.00	0.00	0.00	0.00	0.00	0.00
6. Total Long-term Debt	16836151.50	37615008.71	37615008.71	31345840.59	25076672.47	18807504.35
Loan A	16836151.50	37615008.71	37615008.71	31345840.59	25076672.47	18807504.35
Loan B	0.00	0.00	0.00	0.00	0.00	0.00
7. Total Equity Capital	11224101.00	25076672.47	25076672.47	25076672.47	25076672.47	25076672.47
Ordinary Capital	11224101.00	25076672.47	25076672.47	25076672.47	25076672.47	25076672.47
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	7871392.29	24311984.08	39531138.37
9. Net Profit After Tax	0.00	0.00	7871392.29	16440591.79	15219154.29	15745764.41
Dividends Payable	0.00	0.00	0.00	0.00	0.00	0.00
Retained Profits	0.00	0.00	7871392.29	16440591.79	15219154.29	15745764.41

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

	PRODUCTION					
	5	6	7	8	9	10
TOTAL ASSETS	114509740.58	125665693.82	137348257.18	155826598.78	174304940.38	192783281.98
1. Total Current Assets	79648190.58	94161453.82	109201327.18	131036978.78	152872630.38	174708281.98
Inventory on Materials and Supplies	3732366.12	3732366.12	3732366.12	3732366.12	3732366.12	3732366.12
Work in Progress	662381.29	662381.29	662381.29	662381.29	662381.29	662381.29
Finished Products in Stock	1324762.58	1324762.58	1324762.58	1324762.58	1324762.58	1324762.58
Accounts Receivable	5345454.55	5345454.55	5345454.55	5345454.55	5345454.55	5345454.55
Cash in Hand	851666.18	851666.18	851666.18	851666.18	851666.18	851666.18
Cash Surplus, Finance Available	67731559.85	82244823.09	97284696.45	119120348.06	140955999.66	162791651.26
Securities	0.00	0.00	0.00	0.00	0.00	0.00
2. Total Fixed Assets, Net of Depreciation	34861550.00	31504240.00	28146930.00	24789620.00	21432310.00	18075000.00
Fixed Investment	53448100.00	53448100.00	53448100.00	53448100.00	53448100.00	53448100.00
Construction in Progress	0.00	0.00	0.00	0.00	0.00	0.00
Pre-Production Expenditure	2672405.00	2672405.00	2672405.00	2672405.00	2672405.00	2672405.00
Less Accumulated Depreciation	21258955.00	24616265.00	27973575.00	31330885.00	34688195.00	38045505.00
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	114509740.58	125665693.82	137348257.18	155826598.78	174304940.38	192783281.98
5. Total Current Liabilities	5345454.55	5345454.55	5345454.55	5345454.55	5345454.55	5345454.55
Accounts Payable	5345454.55	5345454.55	5345454.55	5345454.55	5345454.55	5345454.55
Bank Overdraft	0.00	0.00	0.00	0.00	0.00	0.00
6. Total Long-term Debt	12538336.24	6269168.12	0.00	0.00	0.00	0.00
Loan A	12538336.24	6269168.12	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	25076672.47	25076672.47	25076672.47	25076672.47	25076672.47	25076672.47
Ordinary Capital	25076672.47	25076672.47	25076672.47	25076672.47	25076672.47	25076672.47
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	55276902.79	71549277.32	88974398.68	106926130.16	125404471.76	143882813.37
9. Net Profit After Tax	16272374.54	17425121.36	17951731.48	18478341.60	18478341.60	18478341.60
Dividends Payable	0.00	0.00	0.00	0.00	0.00	0.00
Retained Profits	16272374.54	17425121.36	17951731.48	18478341.60	18478341.60	18478341.60