

Investment Office ANRS

**PROJECT PROFILE ON THE ESTABLISHMENT
OF COTTON BLANKET PRODUCING PLANT**

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**October 2008
Addis Ababa**

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1. Executive Summary

This profile provides basic information on the manufacturing of 700 thousand pieces of *Cotton Blankets* per year. The total investment requirement of the project including the working capital is estimated at about Birr 62.7 million; of which 36 million is for building and construction, Birr 15.5 million is for machinery and equipments, and Birr 6.6 million is the cost of the working capital. Based on the cash flow statement, the calculated internal rate of return (IRR) and the simple rate of returns (SRR) of the project are 32.4 % and 29.6 %, respectively. The net present value (NPV) calculated at 18 % discounting rate is about Birr 34,317 thousand. The plant is expected to create employment opportunities for about 535 persons.

2. Product Description and Application

A cotton blanket is a piece of woven warm fabric produced from cotton (usually from cotton waste) for use as a bed covering and a night wear.

Blankets are manufactured in standard sizes. The standards are based on the surface area and the specific weight of the blankets. Accordingly, cotton blankets could be light weight or medium weight. Light weight blankets have a specific weight of 550 gm/m². Medium weight blankets have a specific weight of 1000gm/m². Standard blankets have sizes of 160X220 cm. Family size blankets and either 180X220 cm or 200X220cm.

Blankets, nowadays, are replacing the traditional hand woven 'Bana', 'Gabi' and 'Buluko' in rural areas.

3. Market Study, Plant Capacity and Production Program

3.1 Market Study

3.1.1 Present Demand and Supply

Blankets are woven fabrics produced from cotton or wool or synthetic fiber used for bed coverings as a night ware. They are demanded by both urban and rural population. The domestic sources of supplies of blankets are Akaki and Debre Birhan blanket factories. Akaki textile factory produces cotton blankets of different sizes while Debre Birhan produces woolen blankets

of different sizes. Their production, however, did not show significant increment over the last many years. It was subjected to very high fluctuation. On the other hand, with population and income growth the demand for blankets is on the rise. The gap between domestic demand and supply is being filled by imports. The quantity of imported blankets also shows fluctuations though it generally shows an up ward trend. Beside to this, large quantity of blankets is believed to be supplied through illegal trade which is not reflected in the official external trade statistics. Table 3.1 shows the volume of domestic production and import during the past few years.

As can be seen from the table the total supply was showing upward trend from the period 1994 E.C to 1999 E.C. This is in parallel with the growing population and the corresponding growth in demand for blanket.

Table 3.1
DOMESTIC PRODUCTION AND IMPORT OF BLANKETS
(in PIECES)

Year(E.C.)	Domestic Production Blanket	Domestic Production of Cotton Blanket	Import	Total
1989	1,185,221	244,471	39,205	1,224,426
1990	900,243	194,466	35,584	935,827
1991	1,190,828	182,084	85,994	1,276,822
1992	1,018,631	144,653	209,269	1,227,900
1993	773,750	90,311	353,530	1,127,280
1994	551,561	90,311	421,936	973,479
1995	846,600	90,311	749,273	1,595,873
1996	1,010,223	90,311	902,380	1,912,603
1997	1,131,858	90,311	836,411	1,968,269
1998	1,474,230	90,311	897,538	2,371,768

Source: - Compiled from various issues of CSA on domestic production and Import.

3.1.2 Projected Demand

The demand projection for blankets is based on the number of house holds using blanket. It has been assumed that population living in hot areas does not use blankets and their demand is equated to zero. The size of this population is estimated at 25 % of the total. In addition, not all household members are assumed to have a blanket even if there is a need for it; rather, in this

projection, it is assumed that, on average, there is only one blanket per household. Thus, total population has been converted into households using a factor of five. Further, it is also assumed that a blanket will be replaced every four years. The projection also assumes new demand. New demand is a demand created by incremental households to the population which is assumed to rise approximately 3% per year in line with the population growth rate of the country. The future demand for blanket projected based on the above assumption is shown in Table 3.2.

Table 3.2
DEMAND PROJECTION

Year E.C	Demand for Blanket		
	Replacement Demand	New Demand	Total Demand
2000	2,892,263	335,484	3,227,747
2001	2,979,030	368,208	3,347,238
2002	3,068,401	379,254	3,447,655
2003	3,160,435	390,632	3,551,067
2004	3,255,267	402,351	3,657,618
2005	3,352,925	414,422	3,767,347
2006	3,453,513	426,854	3,496,197
2007	3,557,118	439,660	3,996,778
2008	3,663,832	452,850	4,116,682
2009	3,773,747	466,435	4,240,182
2010	3,886,959	480,428	4,367,387

3.1.3 Pricing and Distribution

The retail price for blankets varies depending on the size and quality of the blanket. It ranges from 90-160 Birr per piece for local products and up to Birr 700 for imported once. In this study, an average factory selling price of Birr 70 is assumed for revenue calculation. The product has a varied assortment and it has to reach all parts of the country. As a result wholesale network is suitable for distribution of such product.

3.2 Plant Capacity

The annual production capacity of the envisaged plant is to be 700,000 pieces per year. The production capacity is based on 3 shifts and 275 working days per year. An annual maintenance

period of 15 days is required and all Sundays and public holidays are deducted as non-working days. Moreover, 10 days are assigned for unexpected interruptions of work.

3.3 *Production Program*

The plant will initially operate at 75 % of its rated capacity. During the second and third years, the plant will operate at 85 % and 100 % of its full capacity, respectively. The capacity build-up is required to introduce the operators and technicians with the new machines and to penetrate the blanket market.

4. Raw Materials and Utilities

4.1 *Availability and Source of Raw materials*

Main inputs are cotton yarn and chemical dyes. Cotton yarn will be obtained from regional sources and the dyes will be imported.

4.2 *Annual Requirement and Cost of Raw Materials and Utilities*

The annual raw material and input requirement for a plant whose production capacity is 3,000,000 m² of blankets or 700,000 pieces of blankets is as indicated in Table 4.1.

The utilities required include electricity, water and furnace oil. Similarly, these requirements and the associated costs are shown in Table 4.1.

Table 4.1
MATERIALS AND INPUTS

		Qty.	Total Costs ('000 Birr)	
			F.C	L.C
A. Major Raw Materials				
1.	Acrylic fiber	1360 tons	6,260	1812
2.	Cotton yarn	224 "		
3.	Ribbons	5208 km		
4.	Thread	15680 km		
B. Auxiliaries Raw Materials				
1.	Lubricants	13 tons	42	6
2.	Hessian cloth	100 m ²		
3.	Twiner	1.4 tons		
4.	Bailing ware	14 tons		
5.	Freight and insurance (15% of FOB)		945.3	13.44
Total Cost of Raw Materials			7247.3	3377.84
			10,625.14	
C. Utilities				
1.	Electricity	3630 mwh		1996.5
2.	Water	6720 m ³		
3.	Furnace Oil	260 tons		
Total Cost of Utilities				2,794.3

5. Location and Site

For its convenience to distribute the product, Bahir-Dar is an appropriate place to establish a cotton blanket making plant.

6. Technology and Engineering

6.1 *Production Process*

The technology for manufacturing of blankets is already known to the country as there are blanket manufacturing plants like Debre Birhan and Akaki textiles and others. The basic process involved in the manufacture of blankets are carding, spinning and weaving of the acrylic yarn, and weaving of the cotton yarn. Additional but minor processes are blending, winding, warping, shearing, polishing, sewing and packing.

By employing an alternative technology, however, cotton blanket is made from waste cotton. In this case, the basic processes in the manufacture of blankets involve carding, spinning and weaving of the waste cotton too. This alternative involves higher investment cost, but it also brings higher profit.

6.2 *Machinery and Equipment*

The list of machineries and equipment required for the production of blankets are as indicated in table 6.1.

Table 6.1
MACHINERY AND EQUIPMENT

	Qty.	Unit Cost (*000 Birr)		Total Costs (*000 Birr)	
		F.C	L.C	F.C	L.C
A. Machinery					
1. Blending line	1	320		320	
2. Telescopic cyclones	2	68		136	
3. Card sets	4	1200		4800	
4. Carding Accessories	1	136		136	
5. Deducting machine	1	54		54	
6. Spinning frame 360 spindles, double	2	560		1120	
7. Spinning frame 360 spindles, single	1	315		315	
8. Spinning Accessories	1	105		105	
9. Cone winder, & spindles	6	32		192	
10. Warping and bearing machine	1	168		168	
11. Warper accessories	1	35		35	
12. Weaving machine	36	95		3420	
13. Raising machine	1	256		256	
14. Roller machine	2	92		184	
15. Shearing and polishing machine	2	160		320	
16. Sewing machine	12	2.5		30	
17. Bale press	1	75		75	
B. Auxiliaries					
1. Ducting	1	40		40	
2. Cutters and blade	6	6		36	
3. Others					
C. Utilities					
1. Boiler	2	160		320	
2. Compressor	2	120		240	
3. Air conditioner	2	46		92	
4. Others					
Freight and insurance 15% of FOB					1859.1
Sum				12394	1859.1
Contingency				1200	-
Total				13594	1859.1
Total Machinery and Equipment				15453.1	
Vehicles	5		360		1800
Office furniture	12 sets		10		120

Machinery Suppliers Address:

Dada Textile Machinery Co. Ltd.

151-4 Munaeji-dong, Siheung-si, Gyeongki-Do,

Korea

6.3 Civil Engineering Cost

The total site area for the envisaged plant is scheduled to be 25,000m². The building for production and stores would occupy 18,000 m². The remaining 2000m² is for offices and open space etc. The cost of construction is estimated to reach Birr 36 millions and the land lease amounts Birr 1.5 million.

7. Human Resource and Training Requirement

7.1 Human Resource

The manpower requirement for the envisaged plant is indicated in Table 7.1.

Table 7.1
MANPOWER REQUIREMENTS

Post	No	Salary/month (Birr)	Annual Salary Expenditure
General Manager	1	4,000	48,000
Line Manager	4	3,000	144,000
Supervisor	18	1,700	367,200
Foremen	24	1,200	345,600
Operation	360	500	2,160,000
Mechanic	60	1,000	720,000
Clerks	15	500	90,000
Office Workers	33	600	237,600
Guards	14	300	50,400
Engineers	6	2,000	144,000
Benefits 20 %			835,440
Total Annual Salary Expenditure	535		5,012,640

7.2 Training Requirement

Training of operators can be conducted in one of the textile factors in Addis Ababa.

8. Financial Analysis

8.1 Underlying Assumption

The financial analysis of *Cotton Blankets Making* 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 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 62.7 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	75,000		75,000
Building and Civil Works	36,000,000		36,000,000
Office Equipment	120,000		120,000
Vehicles	1,800,000		1,800,000
Plant Machinery & Equipment	1,859,100	13,594,000	15,453,100
<i>Total Fixed Investment Cost</i>	39,854,100	13,594,000	53,448,100
Pre-production Capital Expenditure*	1,992,705		2,672,405
<i>Total Initial Investment</i>	41,846,805	13,594,000	56,120,505
Working Capital at Full Capacity	3,408,718	3,162,458	6,571,176
Total	45,255,523	16,756,458	62,691,681

**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 major components of the investment are building and civil works (57.4 %) and plant machinery and equipment (24.6 %). The foreign component of the project accounts for 26.7 % of the total investment.

8.3 Production Costs

The total production cost at full capacity operation is estimated at Birr 28 million (See Table 8.2). Raw materials and utilities account for 47.8 %.

TABLE 8.2
PRODUCTION COST

Raw Material Requirement	Cost
1. Local Raw Materials	3,377,840
2. Foreign Raw Materials	7,247,300

Total Production Cost at full Capacity	
Items	Cost
1. Raw materials	10,625,140
2. Utilities	2,794,300
3. Wages and Salaries	5,012,640
4. Spares and Maintenance	1,603,443
Factory Costs	20,035,523
5. Depreciation	4,251,791
6. Financial Costs	3,761,501
Total Production Cost	28,048,815

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 21.1 % 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 three years.

IV. Simple Rate of Return

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

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

The SRR would be 29.6 % 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 32.4 % and the net present value(NPV) at 18 % discount is Birr 64,813.9 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 16 million per year and more than Birr 162.4 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 59.2 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. Import Substitution and Foreign Exchange Saving

The commencement of this project relieves a portion of the import burden. That is, based on the projected figure we learn that in the project life an estimated amount of US Dollar 47 million will be saved as a result of the proposed project. This will create room for the saved hard currency to be allocated on other vital and strategic sectors.

D. 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 535 professionals as well as support stuffs. Consequently the project creates income of birr 5 million per year. This would be one of the commendable accomplishments of the project.

E. 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	28060252.50	28060252.50	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