

Investment Office ANRS

**PROJECT PROFILE ON THE ESTABLISHMENT
OF SOYBEAN PRODUCTION FARM**

Development Studies Associates (DSA)

**October 2008
Addis Ababa**

Table of Contents

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

1. Executive Summary

This project profile deals with the establishment of soybean production farm in Amhara National Regional State. The following presents the main findings of the study

Demand projection divulges that the demand for soybean is substantial and is increasing with time. Accordingly, the planned plant is set to produce 450 quintals annually. The total investment cost of the project including working capital is estimated at birr 638.35 thousand and creates more than 41 job opportunity and birr 309.32 thousand of income

The financial result indicates that the project will generate profit beginning from the first year of operation. Moreover, the project will break even at 42.8% of capacity utilization and it will payback fully the initial investment less working capital in 3 years. The result further show that the calculated IRR of the project is 32% and NPV discounted at 18% of birr 342,268.85

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

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

2. Product Description and Application

Soybean is a staple food of great nutritional value. It is an important global crop, providing oil and protein. Soybean plant has tawny or grey-color pubescence on the stems, leaves and pods. The number of seeds per pod varies from one to three. The size of the seed varies so much that the weight of one hundred seeds may range from 20 to 60 grams. The color of the seed coat is generally yellow, but may be green or black. Soybean is a self pollinated crop and the flower is either purple or white which are borne in clusters. The bulk of the crop is solvent-extracted for vegetable oil and deflated soy meal. A small proportion of the crop is consumed directly by humans. Soybean flour made from Soya meal can be mixed with wheat flour. Moreover, it is also used in to the making of candies and ice cream. The mature seeds can also be processed to give Soya milk, curds and cheese.

Soybean has a number of health related advantages as well. It is regarded as equal in protein to animal foods. It has been found to be excellent for a number of different conditions such as high blood pressure, diabetes related diseases and many others. It is very useful in improving the menu of malnourished children and revitalizing heart and breast cancer patients and has no cholesterol.

3. Market Study, Plant Capacity and Production Program

3.1 Market Study

3.1.1 Present Demand and Supply

According to Agricultural Sample Survey of CSA (2006/07,Vol-I), there are 49,642 private peasant holdings that cultivate about 6,352.5 hectares of land and produced 58,489.5 quintals of soybean. The average production therefore, is 9.21 quintals per hectare. In other words, the level of production per peasant holding has been 1.18 quintals. At present the use of soybean in Ethiopia is limited to baby foods production. These baby food processing plants such as Faffa Food Factory mainly covers their demand totally from imports as there is no ample and sustainable supply of soybean required by the factories.

According to Faffa food plant, it produces faffa baby food with 18% deflated soy flour, Dube with 13% soy protein and Meten containing soy flour with 14% protein. This implies that about 15% of the factory's whole product is soy flour and this percentage share can be used to estimate the present annual demand for soy flour by the baby food producing plants. In this connection, the report of CSA (2007), pointed out that about 16,550 tons of Fafa, Dube, Edget and Meten has been produced in 2006/07 alone which, therefore, implies that about 2,483 tons of soy flour has been imported in to the country in 2006/07 alone. This by itself indicates the presence of huge demand for the product.

Moreover, given the wide range of health benefits of soy bean stated earlier, flour mill factories are likely to blend their products with soy flour if it is available domestically at affordable price.

This will increase the nutritional value of the milled flour thereby increasing the demand in the market. According to CSA, Annual Abstract (2006), about 173,991 ton of wheat and other flour has been produced in 2005/06 alone. Since the minimum requirement of soy flour being blended by flour mill plants in many developing countries is 3%, the potential demand by the flour mill plants in the country is estimated at 5,220 ton. In general, based on the foregoing analysis, the present annual potential demand for soy flour is estimated to be about 7,703 ton, where 2,483 ton (32%) emanates from the baby food producing plants while the remaining 5220 ton (68%) is the demand of flour milling plants. In general the above presentation divulges that there is substantial potential demand for the product.

3.1.2 Projected Demand

Studies show that the average per hectare yield of soy bean in commercial farming is about 1.5 ton per hectare. As we have seen earlier, the current annual potential demand for the bean in Ethiopia is estimated to be 7,703 ton. The level of demand will increase in the future as more and more families become aware of the diet and health advantage of the grain. Accordingly, if we conservatively assume that the future demand for the crop increases by 5% per annum the forecasted demand would be as shown in table 1 below.

Table 1: Forecasted Demand for Soybean (in tone)

Year	Projected Demand
2007/08	8,088
2008/09	8,493
2009/10	8,917
2010/11	9,363
2011/12	9,831
2012/13	10,323
2013/14	10,839
2014/15	11,381
2015/16	11,950
2016/17	12,547

According to table1 the demand for the soybean is estimated to reach 8,917 ton in 2009/10 and increases by 41% to reach 12,547 ton by 2016/17. Measured by any standard such level of

demand and growth is very substantial and at the same time suggests the relevance of establishing a soybean plantation.

3.1.3 Pricing and Distribution

Based on the market research result and the capacity of the envisaged plant, the selling price is set to be birr 1,650 per quintal. In distributing the product the envisaged plantation shall make use of the available retail and wholesale network.

3.2 Farm Size

In consideration of the expected demand for soy bean as presented earlier the envisaged plantation is set to produce 450 quintals annually.

3.3 Production Program

The program is scheduled based on the consideration that the envisaged plantation will work 275 days in a year, where the remaining days will be holidays and for maintenance. During the first year of operation the plantation will operate at 80 percent capacity and then it grows to 90 percent in the 2nd year. The capacity will grow to 100 percent starting from the 3rd year. This consideration is developed based on the assumption that ample market already exists and logistics barriers be eliminated within the first two years of operation.

4. Raw Materials and Utilities

4.1 Availability and Source of Raw Materials

The main inputs used in producing soybean are seed, fertilizer and water and polyethylene packaging bags. While seed, fertilizer and polyethylene bags can be accessed from domestic suppliers, the firm shall make use of water pump equipments to pump water from the nearby river or other source

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 2 here under

Table 2: Material and Utility Requirement

Material and Input	Quantity	Total Cost	
		L.C.	F.C.
Soybean Seed	2250 kg	38250	
Fertilizer	1800 kg	11700	
Polyethylene Bag (100 kg)	480 pcs	1440	
Total Material Cost		51390	
Utility			
Electricity	6,000kwh	3,300	
Diesel	10,000 lit	70,000	
Water	1,500m ³	3,975	
Total Utility Cost		77,725	

The total material and utility cost at full capacity of operation is estimated to be birr 128,665 per year

5 Location and Site

The appropriate locations for the envisaged project in view of the availability of appropriate land as well as market for the output are the lowland areas of Awi, West Gojam and North Gonder zones as they are considered as suitable areas for soybeans production

6 Technology and Engineering

6.1 Production Process

In the cultivation process, the first task is ploughing, disking and harrowing. There should be enough moisture in the soil at the time of sowing. Thus, planting date for the Amhara region may be during May to early July. The recommendation seed rate is 75 to 100kg per hectare at desired spacing between rows and plants. Germination will take place within 3 to 4 days and based on soil test results of the field, fertilizer could be applied at a recommended rate and time intervals. At early stage soybean field should be clean of weeds. Thus, efforts should be made to keep farms weed-free. The first weeding should take place at about 3 weeks after planting; the second weeding, 3 weeks later. The crop is relatively free of insect pests.

In five months time soybeans is ready for harvesting. Harvesting should be carried out when pods are dry. Seed moisture content decreases rapidly when drying weather prevails during harvest time. In such a case, seed moisture may drop to 10 percent or less. Prompt harvest is essential in soybean; if harvesting is delayed, the pods may shatter resulting in yield losses and seed deterioration due to alternate wetting and drying. Harvesting and threshing can be manual or mechanical.

The threshed seeds should be examined for any possible mixture and these should be removed. Seed mixture can be identified if they have different seed-coat color, different hilum color and different seed size. Seeds should be properly cleaned and well dried. The moisture content should not be more than 10 percent. Seeds should be stored in polythene bags and stored in a room. The store should be fumigated with phostoxin to control insect damage.

6.2 Machinery and Equipment

The machineries and equipment required for producing soybean plantation is detailed in table 3 below

Table 3: Machinery and Equipment

Machinery and Equipment	Quantity
Tractor	1
Trailer	1
Water Pump	5
Irrigation Equipments	As Required
Various Agricultural Hand Tools	As Required

The, total cost of machinery and equipment is estimated to be about birr 350,000. The tractor and trailer can be purchased from Nazareth Tractor Assembly Plant while the other tools and equipments are available in various material shops in Addis Ababa.

6.3 Civil Engineering Cost

The total site area for the envisaged plantation is estimated to be 30 hectare. Moreover, addition 250m² is required for stores, machinery shades, office and residence building construction

7 Human Resource and Training Requirement

7.1 Human Resource

The list of required manpower for the envisaged plant is stated in table 4 below

Table 4: Human Resource Requirement

Position	No. Required	Monthly Salary	Total Annual Salary
Manager/Agronomist	1	4000	48000
Accountant/Casher	1	1200	14400
Sales Clerk	2	600	14400
Store Keeper	1	600	7200
Operation Supervisor	2	1000	24000
Tractor Operator	1	750	9000
Laborers	25	300	90000
Guards	6	300	21600
Benefit (20%)			45720
Total	41		274320

The envisaged plant creates 41 job opportunity and about birr 274.32 thousand of income. The professionals and support staffs for the envisaged plant shall be recruited from Amhara region. In order to avoid large-scale labor redundancies, seasonal works (harvesting, weeding, etc) shall be done by temporary workers. For this, additional birr 35,000 shall be allocated every year

7.2 Training Requirement

On job training of key personnel shall be conducted primarily with the aim of the production technology and machinery maintenance. For this purpose birr 10,000 will be allocated as training expense.

8 Financial Analysis

8.1 Underlying Assumption

The financial analysis of soybean plantation producing plant is based on the data provided in the preceding chapters and the following assumptions.

A. Construction and Finance

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

B. Depreciation

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

C. Working Capital (Minimum Days of Coverage)

Raw Material-Local	30
Cash in Hand	30

8.2 Investment

The total investment cost of the project including working capital is estimated at Birr 638.35 thousand as shown in table 5 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 5: Total initial investment

Items	L.C	F.C	Total
Land	2,400		2,400
Building and civil works	200,000		200,000
Office equipment	10,000		10,000
Vehicles	0		0
Plant machinery & equipment	350,000		350,000
<i>Total fixed investment cost</i>	<i>562,400</i>	<i>0</i>	<i>562,400</i>
Pre production capital expenditure*	28,120		28,120
<i>Total initial investment</i>	<i>590,520</i>	<i>0</i>	<i>590,520</i>
Working capital at full capacity	47,829	0	47,829
Total	638,349	0	638,349

**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.*

8.3 Production Costs

The total production cost at full capacity operation is estimated at Birr 533.98 thousand as detailed in table 6 below.

Table 6: Production Cost

Items	Cost
1. Raw materials	51,390
2. Utilities	77,725
3. Wages and Salaries	309,320
4. Spares and Maintenance	5,624
<i>Plantation Costs</i>	<i>444,059</i>
5. Depreciation	51,624
6. Financial costs	38,301
Total Production Cost	533,984

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 13%, 31% and 29% 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 42.8% 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.

IV. Simple Rate of Return

For the envisaged plant the simple rate of return equals to 27.6%

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 32% and the net present value at 18 % discount is Birr 342,268.85

VI. Sensitivity Analysis

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

9 Economic and Social Benefit and Justification

The envisaged project possesses wide range of benefits that promotes the socio-economic goals and objectives stated in the strategic plan of the Amhara National Regional State. These benefits are listed as follows

A. Profit Generation

The project is found to be financially viable and earns a profit of birr 1.54 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 545.4 thousand from corporate tax payment alone. 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 region. That is, it will provide permanent employment to 41 personnel in addition to several temporary laborers. Consequently the project creates income of birr 309.32 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 (%)	0.00	0.00	80%	90%	100%	100%
1. Total Inventory	0.00	0.00	8969.89	10091.13	11212.36	11212.36
Raw Materials in Stock- Total	0.00	0.00	4484.95	5045.56	5606.18	5606.18
Raw Material-Local	0.00	0.00	4484.95	5045.56	5606.18	5606.18
Raw Material-Foreign	0.00	0.00	0.00	0.00	0.00	0.00
Factory Supplies in Stock	0.00	0.00	0.00	0.00	0.00	0.00
Spare Parts in Stock and Maintenance	0.00	0.00	0.00	0.00	0.00	0.00
Work in Progress	0.00	0.00	0.00	0.00	0.00	0.00
Finished Products	0.00	0.00	0.00	0.00	0.00	0.00
2. Accounts Receivable	0.00	0.00	0.00	0.00	0.00	0.00
3. Cash in Hand	0.00	0.00	33778.47	38000.78	42223.09	42223.09
CURRENT ASSETS	0.00	0.00	38263.42	43046.35	47829.27	47829.27
4. Current Liabilities	0.00	0.00	0.00	0.00	0.00	0.00
Accounts Payable	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL NET WORKING CAPITAL REQUIRMENTS	0.00	0.00	38263.42	43046.35	47829.27	47829.27
INCREASE IN NET WORKING CAPITAL	0.00	0.00	38263.42	4782.93	4782.93	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	11212.36	11212.36	11212.36	11212.36	11212.36	11212.36
Raw Materials in Stock-Total	5606.18	5606.18	5606.18	5606.18	5606.18	5606.18
Raw Material-Local	5606.18	5606.18	5606.18	5606.18	5606.18	5606.18
Raw Material-Foreign	0.00	0.00	0.00	0.00	0.00	0.00
Factory Supplies in Stock	0.00	0.00	0.00	0.00	0.00	0.00
Spare Parts in Stock and Maintenance	0.00	0.00	0.00	0.00	0.00	0.00
Work in Progress	0.00	0.00	0.00	0.00	0.00	0.00
Finished Products	0.00	0.00	0.00	0.00	0.00	0.00
2. Accounts Receivable	0.00	0.00	0.00	0.00	0.00	0.00
3. Cash in Hand	42223.09	42223.09	42223.09	42223.09	42223.09	42223.09
CURRENT ASSETS	47829.27	47829.27	47829.27	47829.27	47829.27	47829.27
4. Current Liabilities	0.00	0.00	0.00	0.00	0.00	0.00
Accounts Payable	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL NET WORKING CAPITAL REQUIRMENTS	47829.27	47829.27	47829.27	47829.27	47829.27	47829.27
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	295260.00	343089.27	594000.00	668250.00	742500.00	742500.00
1. Inflow Funds	295260.00	343089.27	0.00	0.00	0.00	0.00
Total Equity	118104.00	137235.71	0.00	0.00	0.00	0.00
Total Long Term Loan	177156.00	205853.56	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	0.00	0.00	594000.00	668250.00	742500.00	742500.00
Sales Revenue	0.00	0.00	594000.00	668250.00	742500.00	742500.00
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	295260.00	295260.00	501470.59	519255.65	617002.41	606857.34
4. Increase In Fixed Assets	295260.00	295260.00	0.00	0.00	0.00	0.00
Fixed Investments	281200.00	281200.00	0.00	0.00	0.00	0.00
Pre-production Expenditures	14060.00	14060.00	0.00	0.00	0.00	0.00
5. Increase in Current Assets	0.00	0.00	38263.42	4782.93	4782.93	0.00
6. Operating Costs	0.00	0.00	360337.46	404676.65	449015.83	449015.83
7. Corporate Tax Paid	0.00	0.00	0.00	0.00	61067.76	63365.82
8. Interest Paid	0.00	0.00	102869.71	45961.15	38300.96	30640.77
9.Loan Repayments	0.00	0.00	0.00	63834.93	63834.93	63834.93
10.Dividends Paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus(Deficit)	0.00	47829.27	92529.41	148994.35	125497.60	135642.66
Cumulative Cash Balance	0.00	47829.27	140358.68	289353.03	414850.63	550493.28

Annex 2: Cash Flow Statement (in Birr): Continued						
	PRODUCTION					
	5	6	7	8	9	10
TOTAL CASH INFLOW	742500.00	742500.00	742500.00	742500.00	742500.00	742500.00
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	742500.00	742500.00	742500.00	742500.00	742500.00	742500.00
Sales Revenue	742500.00	742500.00	742500.00	742500.00	742500.00	742500.00
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	601495.21	597820.28	592458.14	523261.08	523261.08	523261.08
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	449015.83	449015.83	449015.83	449015.83	449015.83	449015.83
7. Corporate Tax Paid	65663.88	69649.14	71947.19	74245.25	74245.25	74245.25
8. Interest Paid	22980.57	15320.38	7660.19	0.00	0.00	0.00
9. Loan Repayments	63834.93	63834.93	63834.93	0.00	0.00	0.00
10.Dividends Paid	0.00	0.00	0.00	0.00	0.00	0.00
Surplus(Deficit)	141004.79	144679.72	150041.86	219238.92	219238.92	219238.92
Cumulative Cash Balance	691498.07	836177.80	986219.65	1205458.57	1424697.49	1643936.41

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	594000.00	668250.00	742500.00	742500.00
1. Inflow Operation	0.00	0.00	594000.00	668250.00	742500.00	742500.00
Sales Revenue	0.00	0.00	594000.00	668250.00	742500.00	742500.00
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	295260.00	295260.00	398600.88	409459.57	453798.76	512381.65
3. Increase in Fixed Assets	295260.00	295260.00	0.00	0.00	0.00	0.00
Fixed Investments	281200.00	281200.00	0.00	0.00	0.00	0.00
Pre-production Expenditures	14060.00	14060.00	0.00	0.00	0.00	0.00
4. Increase in Net Working Capital	0.00	0.00	38263.42	4782.93	4782.93	0.00
5. Operating Costs	0.00	0.00	360337.46	404676.65	449015.83	449015.83
6. Corporate Tax Paid	0.00	0.00	0.00	0.00	61067.76	63365.82
NET CASH FLOW	-295260.00	-295260.00	195399.12	258790.43	288701.24	230118.35
CUMMULATIVE NET CASH FLOW	-295260.00	-590520.00	-395120.88	-136330.46	152370.79	382489.13
Net Present Value (at 18%)	-295260.00	-250220.34	140332.60	157507.84	148908.89	100586.85
Cumulative Net present Value	-295260.00	-545480.34	-405147.73	-247639.89	-98731.00	1855.85

Annex 3: DISCOUNTED CASH FLOW-TOTAL CAPITAL INVESTED (Continued)						
	PRODUCTION					
	5	6	7	8	9	10
TOTAL CASH INFLOW	742500.00	742500.00	742500.00	742500.00	742500.00	742500.00
1. Inflow Operation	742500.00	742500.00	742500.00	742500.00	742500.00	742500.00
Sales Revenue	742500.00	742500.00	742500.00	742500.00	742500.00	742500.00
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	514679.71	518664.97	520963.02	523261.08	523261.08	523261.08
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	449015.83	449015.83	449015.83	449015.83	449015.83	449015.83
6. Corporate Tax Paid	65663.88	69649.14	71947.19	74245.25	74245.25	74245.25
NET CASH FLOW	227820.29	223835.03	221536.98	219238.92	219238.92	219238.92
CUMMULATIVE NET CASH FLOW	610309.43	834144.46	1055681.44	1274920.36	1494159.27	1713398.19
Net Present Value (at 18%)	84391.82	70267.42	58937.29	49428.75	41888.77	35498.96
Cumulative Net present Value	86247.67	156515.09	215452.38	264881.13	306769.89	342268.85
Net Present Value (at 18%)	342,268.85					
Internal Rate of Return	32.0%					

Annex 4: NET INCOME STATEMENT (in Birr)					
	PRODUCTION				
	1	2	3	4	5
Capacity Utilization (%)	80%	90%	100%	100%	100%
1. Total Income	594000.00	668250.00	742500.00	742500.00	742500.00
Sales Revenue	594000.00	668250.00	742500.00	742500.00	742500.00
Other Income	0.00	0.00	0.00	0.00	0.00
2. Less Variable Cost	255731.06	287697.45	319663.83	319663.83	319663.83
VARIABLE MARGIN	338268.94	380552.55	422836.17	422836.17	422836.17
(In % of Total Income)	56.95	56.95	56.95	56.95	56.95
3. Less Fixed Costs	156230.40	168603.20	180976.00	180976.00	180976.00
OPERATIONAL MARGIN	182038.54	211949.35	241860.17	241860.17	241860.17
(In % of Total Income)	31	32	33	33	33
4. Less Cost of Finance	102869.71	45961.15	38300.96	30640.77	22980.57
5. GROSS PROFIT	79168.83	165988.21	203559.21	211219.40	218879.60
6. Income (Corporate) Tax	0.00	0.00	61067.76	63365.82	65663.88
7. NET PROFIT	79168.83	165988.21	142491.45	147853.58	153215.72
RATIOS (%)					
Gross Profit/Sales	13%	25%	27%	28%	29%
Net Profit After Tax/Sales	13%	25%	19%	20%	21%
Return on Investment	29%	33%	28%	28%	28%
Return on Equity	31%	65%	56%	58%	60%

Annex 4: NET INCOME STATEMENT (in Birr):Continued					
	PRODUCTION				
	6	7	8	9	10
Capacity Utilization (%)	100%	100%	100%	100%	100%
1. Total Income	742500.00	742500.00	742500.00	742500.00	742500.00
Sales Revenue	742500.00	742500.00	742500.00	742500.00	742500.00
Other Income	0.00	0.00	0.00	0.00	0.00
2. Less Variable Cost	319663.83	319663.83	319663.83	319663.83	319663.83
VARIABLE MARGIN	422836.17	422836.17	422836.17	422836.17	422836.17
(In % of Total Income)	57	57	57	57	57
3. Less Fixed Costs	175352.00	175352.00	175352.00	175352.00	175352.00
OPERATIONAL MARGIN	247484.17	247484.17	247484.17	247484.17	247484.17
(In % of Total Income)	33	33	33	33	33
4. Less Cost of Finance	15320.38	7660.19	0.00	0.00	0.00
5. GROSS PROFIT	232163.79	239823.98	247484.17	247484.17	247484.17
6. Income (Corporate) Tax	69649.14	71947.19	74245.25	74245.25	74245.25
7. NET PROFIT	162514.65	167876.79	173238.92	173238.92	173238.92
RATIOS (%)					
Gross Profit/Sales	31%	32%	33%	33%	33%
Net Profit After Tax/Sales	22%	23%	23%	23%	23%
Return on Investment	28%	27%	27%	27%	27%
Return on Equity	64%	66%	68%	68%	68%

Annex 5: Projected Balance Sheet (in Birr)

	CONSTRUCTION		PRODUCTION			
	Year 1	Year 2	1	2	3	4
TOTAL ASSETS	295260.00	638349.27	717518.10	819671.38	898327.90	982346.55
1. Total Current Assets	0.00	47829.27	178622.10	332399.38	462679.90	598322.55
Inventory on Materials and Supplies	0.00	0.00	4484.95	5045.56	5606.18	5606.18
Work in Progress	0.00	0.00	0.00	0.00	0.00	0.00
Finished Products in Stock	0.00	0.00	0.00	0.00	0.00	0.00
Accounts Receivable	0.00	0.00	0.00	0.00	0.00	0.00
Cash in Hand	0.00	0.00	33778.47	38000.78	42223.09	42223.09
Cash Surplus, Finance Available	0.00	47829.27	140358.68	289353.03	414850.63	550493.28
Securities	0.00	0.00	0.00	0.00	0.00	0.00
2. Total Fixed Assets, Net of Depreciation	295260.00	590520.00	538896.00	487272.00	435648.00	384024.00
Fixed Investment	0.00	281200.00	562400.00	562400.00	562400.00	562400.00
Construction in Progress	281200.00	281200.00	0.00	0.00	0.00	0.00
Pre-Production Expenditure	14060.00	28120.00	28120.00	28120.00	28120.00	28120.00
Less Accumulated Depreciation	0.00	0.00	51624.00	103248.00	154872.00	206496.00
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	295260.00	638349.27	717518.10	819671.38	898327.90	982346.55
5. Total Current Liabilities	0.00	0.00	0.00	0.00	0.00	0.00
Accounts Payable	0.00	0.00	0.00	0.00	0.00	0.00
Bank Overdraft	0.00	0.00	0.00	0.00	0.00	0.00
6. Total Long-term Debt	177156.00	383009.56	383009.56	319174.64	255339.71	191504.78
Loan A	177156.00	383009.56	383009.56	319174.64	255339.71	191504.78
Loan B	0.00	0.00	0.00	0.00	0.00	0.00
7. Total Equity Capital	118104.00	255339.71	255339.71	255339.71	255339.71	255339.71
Ordinary Capital	118104.00	255339.71	255339.71	255339.71	255339.71	255339.71
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	79168.83	245157.03	387648.48
9. Net Profit After Tax	0.00	0.00	79168.83	165988.21	142491.45	147853.58
Dividends Payable	0.00	0.00	0.00	0.00	0.00	0.00
Retained Profits	0.00	0.00	79168.83	165988.21	142491.45	147853.58

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

	PRODUCTION					
	5	6	7	8	9	10
TOTAL ASSETS	1071727.34	1170407.07	1274448.93	1447687.85	1620926.76	1794165.68
1. Total Current Assets	739327.34	884007.07	1034048.93	1253287.85	1472526.76	1691765.68
Inventory on Materials and Supplies	5606.18	5606.18	5606.18	5606.18	5606.18	5606.18
Work in Progress	0.00	0.00	0.00	0.00	0.00	0.00
Finished Products in Stock	0.00	0.00	0.00	0.00	0.00	0.00
Accounts Receivable	0.00	0.00	0.00	0.00	0.00	0.00
Cash in Hand	42223.09	42223.09	42223.09	42223.09	42223.09	42223.09
Cash Surplus, Finance Available	691498.07	836177.80	986219.65	1205458.57	1424697.49	1643936.41
Securities	0.00	0.00	0.00	0.00	0.00	0.00
2. Total Fixed Assets, Net of Depreciation	332400.00	286400.00	240400.00	194400.00	148400.00	102400.00
Fixed Investment	562400.00	562400.00	562400.00	562400.00	562400.00	562400.00
Construction in Progress	0.00	0.00	0.00	0.00	0.00	0.00
Pre-Production Expenditure	28120.00	28120.00	28120.00	28120.00	28120.00	28120.00
Less Accumulated Depreciation	258120.00	304120.00	350120.00	396120.00	442120.00	488120.00
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	1071727.34	1170407.07	1274448.93	1447687.85	1620926.76	1794165.68
5. Total Current Liabilities	0.00	0.00	0.00	0.00	0.00	0.00
Accounts Payable	0.00	0.00	0.00	0.00	0.00	0.00
Bank Overdraft	0.00	0.00	0.00	0.00	0.00	0.00
6. Total Long-term Debt	127669.85	63834.93	0.00	0.00	0.00	0.00
Loan A	127669.85	63834.93	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	255339.71	255339.71	255339.71	255339.71	255339.71	255339.71
Ordinary Capital	255339.71	255339.71	255339.71	255339.71	255339.71	255339.71
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	535502.06	688717.78	851232.43	1019109.22	1192348.14	1365587.06
9. Net Profit After Tax	153215.72	162514.65	167876.79	173238.92	173238.92	173238.92
Dividends Payable	0.00	0.00	0.00	0.00	0.00	0.00
Retained Profits	153215.72	162514.65	167876.79	173238.92	173238.92	173238.92