Project profile on spinning

Table of Contents

1. Executive Summary............................................................................................2

2. Product Description and Application.................................................................3

3. Market Study, Plant Capacity and Production Program...................................3

3.1 Market Study...................................................................................................3

3.1.1 Present Demand and Supply..........................................................................3

3.1.2 Projected Demand.........................................................................................4

3.1.3 Pricing and Distribution.................................................................................7

3.2 Plant Capacity and production capacity..........................................................8

4. Raw Materials and Utilities ..............................................................................9

4.1 Availability and Source of Raw Materials.......................................................9

4.2 Annual Requirement and Cost of Raw Materials and Utilities.....................10

5. Location and Site..............................................................................................11

6. Technology and Engineering..............................................................................11

6.1 Production Process..........................................................................................13

6.2 Machinery and Equipment .............................................................................13

6.3 Civil Engineering Cost.....................................................................................15

7. Human Resource and Training Requirement ...................................................17

8. Financial Analysis..............................................................................................18

8.1 Underlying Assumption....................................................................................18

8.2 Investment.....................................................................................................19

8.3 Production Costs.............................................................................................20

8.4 Financial Evaluation.........................................................................................21

**1. Executive Summery**

This project profile foresees the launching of a conventional cotton spinning mill with annual spinning capacity of 8000tonnes which is located on 30,000m2 of land in Sebeta industrial zone.

The plant is designed to sell 80 % of its product to the international market and the remaining 20 % is for the domestic market.

The present demand for the local market estimated at 25,414 tons per annum. The Demand is expected to reach at 79,760 tons by the year 2015.The unsatisfied domestic market within the same year will be 53,902 tones.

It is quite clear that the international yarn market is entirely open for all developing nations; however, we have determined the unsatisfied demand based on 5 year GTP (Growth and transformation plan) for textile sector.

Thus the unsatisfied demand for the international market is estimated to be 1,982,351 tons by the year 2015. Hence both the local and foreign market is adequate enough to accommodate full capacity of the plant.

The project will create employment opportunity for 267 people.

The total investment requirement is estimated at Birr 918,162,386 Birr, out of which Birr 690,220,478 Birr is required for plant and machinery.

The project is financially feasible that it will reach breakeven point at 18% of the capacity and has a payback period of 3 years.

**2. Product description and application**

Nowadays, out of the total demand of textile fibers about 70 % is covered by cotton. Its widespread use is largely due to the ease with which its fibers are spun in to yarn. Cotton’s strength, absorbency and capability to be washed and dyed also make it adaptable to be a considerable variety of textile products.

Cotton yarn count can range from 6 Ne to 160 Ne depending on the end user demand. Cotton yarns can be employed for both weaving and knitting processes.Furthermore; cotton yarn can be sold for hand loom weavers as market yarn.

Cotton fiber, which grows in the seed pod of cotton plants, is the only one that is useful for manufacturing of textiles. Different species of cotton plants produce fiber of different length. Long staple fibers are spun in to fine, strong yarns, which are then woven in to better quality fabrics. Cotton yarn can be dyed and printed easily, so that they are useful for producing woven fabric with a multitude of colors and design.

**3. MARKET STUDY AND PLANT CAPACITY**

**3.1 MARKET STUDY**

**3.1.1. Past Supply and Present Demand**

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.

The demand for cotton yarn in Ethiopia is currently met through domestic production though the country was importing some amount in the past to fill the demand gap. The local producers are two spinning plants: Adei Ababa Yarn Factory and Edget Yarn and Sewing Thread Factor y and integrated textile mills: Akaki, Arbaminch, Awassa, Kombolcha, Bahirdar, Almeda ,Ayka, Adama,and Dire Dawa textile factories.

The integrated mills produce yarn mainly for the consumption of their own weaving departments to produce fabrics, while the spinning factories produce exclusively for the hand loom sector and other consumers of marketed yarn.

Though these major spinning companies in Ethiopia have an annual installed capacity of 37,625 tons of yarn, currently they have an attainable capacity of25, 858 tons per annum as most of the machineries are obsolete and inefficient.

The domestic production Data of Industrial cotton yarn is shown in Table 3.1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.1 Domestic Production and Import of cotton yarn[[1]](#footnote-2)** | | | | |
| Year(EC) | Domestic production (In KG) | Import (In KG) | Total | Growth Rate(%) |
| 1996 | 13,774,483 | 2,342 | 13,776,825 | 7.6% |
| 1997 | 14,812,523 | 14,534 | 14,827,057 | -16.3% |
| 1998 | 12,414,339 | 446 | 12,414,785 | 6.1% |
| 1999 | 13,140,399 | 31,586 | 13,171,985 | -0.8% |
| 2000 | 13,033,289 | 34,745 | 13,068,034 | 25.0% |
| 2001 | 16,291,611 | 38,219 | 16,329,830 | 20.0% |
| 2002 | 19,549,934 | 42,041 | 19,591,974 | 30.0% |
| 2003 | 25,414,914 | 46,245 | 25,461,159 | 35.0% |

Production of cotton yarn has exhibited a significant growth in the past years. During recent years the production level increases to about 25,414 tons.

Even though the export market is entirely open for developing nations like Ethiopia, The export demand based on the government yarn export plan has totally unsatisfied by current production capacity of existing plants.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 3.2 Export Market demand plan of cotton yarn[[2]](#footnote-3)** | | | |
| Year(EC) | Yarn Export plan (In KG) | Yarn Exported (Kg) | Growth Rate (%) |
| 1996 | 9,900,392 | 10890431 | 10.0% |
| 1997 | 11,000,435 | 12100479 | 10.0% |
| 1998 | 12,222,706 | 13444977 | 10.0% |
| 1999 | 13,580,784 | 14938862 | 10.0% |
| 2000 | 15,089,760 | 16598736 | 20.0% |
| 2001 | 18,862,200 | 20748420 | 28.0% |
| 2002 | 26,197,500 | 28817250 | 30.0% |
| 2003 | 37,425,000 | 41167500 | 30.0% |

Table 3.1 and 3.2 depicts that the present demand for cotton yarn both locally and foreign market is quite big that the existing plants are unable to satisfy the cotton yarn demand both in the country and oversees.

**3.1.2. Projected Demand**

As revealed by the data set in Table 3.3, cotton yarn consumption had exhibited an average annual growth of 25% during the years 1996 to 2003. Assuming this growth trend will increase to 30%, the future demand for cotton yarn is projected to range from 25,461 tons in year 2003 to 593,193 tons by the year 2015. The unsatisfied local market demand by the year 2015 is determined to be 567,338 tons assuming that the existing spinning capacity 25,858 tons is remained unchanged for the coming 10 years as it is shown in table 3.3

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 3.3 Domestic Market demand Projection** | | | |
| Year(EC) | Projected Demand (In KG) | Existing Capacity(Kg) | Unsatisfied demand (KG) |
| 2003 | 25,461,159 | 25,858,000 | -396,841 |
| 2004 | 33,099,507 | 25,858,000 | 7,241,507 |
| 2005 | 43,029,359 | 25,858,000 | 17,171,359 |
| 2006 | 55,938,166 | 25,858,000 | 30,080,166 |
| 2007 | 72,719,616 | 25,858,000 | 46,861,616 |
| 2008 | 94,535,501 | 25,858,000 | 68,677,501 |
| 2009 | 122,896,151 | 25,858,000 | 97,038,151 |
| 2010 | 159,764,997 | 25,858,000 | 133,906,997 |
| 2011 | 207,694,496 | 25,858,000 | 181,836,496 |
| 2012 | 270,002,845 | 25,858,000 | 244,144,845 |
| 2013 | 351,003,698 | 25,858,000 | 325,145,698 |
| 2014 | 456,304,807 | 25,858,001 | 430,446,806 |
| 2015 | 593,196,250 | 25,858,002 | 567,338,248 |

As revealed by the data set in Table 3.4, cotton yarn export plan had exhibited an average annual growth of 25% during the years 1996 to 2003. Assuming this growth trend will increase to 30%, the future export demand for cotton yarn is projected to range from 37,425 tons in year 2003 to 2,008,209 tons by the year 2015. The unsatisfied local market demand by the year 2015 is determined to be 1,982,351 tons assuming that the existing spinning capacity 25,858 tons is remained unchanged for the coming 10 years as it is shown in table 3.4

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 3.4 Export Market demand Projection** | | | |
| Year (EC) | Projected Demand | Existing Capacity (In KG) | Unsatisfied demand (KG) |
| 2003 | 37,425,000 | 25,858,000 | 11,567,000 |
| 2004 | 48,688,000 | 25,858,000 | 22,830,000 |
| 2005 | 74,772,000 | 25,858,000 | 48,914,000 |
| 2006 | 102,176,000 | 25,858,000 | 76,318,000 |
| 2007 | 136,077,000 | 25,858,000 | 110,219,000 |
| 2008 | 190,507,800 | 25,858,000 | 164,649,800 |
| 2009 | 266,710,920 | 25,858,000 | 240,852,920 |
| 2010 | 373,395,288 | 25,858,000 | 347,537,288 |
| 2011 | 522,753,403 | 25,858,000 | 496,895,403 |
| 2012 | 731,854,764 | 25,858,000 | 705,996,764 |
| 2013 | 1,024,596,670 | 25,858,000 | 998,738,670 |
| 2014 | 1,434,435,338 | 25,858,000 | 1,408,577,338 |
| 2015 | 2,008,209,474 | 25,858,000 | 1,982,351,474 |

**3.1.3 Pricing and Distribution**

The current factory gate price of marketed Cotton yarn is shown on table 3.5

Distribution of yarn to the domestic market is undertaken by long established wholesalers, most of them located in 'Merkato'.

The product will find its foreign market outlets through the most reputable yarn marketers to USA and Europe.

The envisaged plant is expected to sell its product to the whole seller at an average price of 90.5 Birr to both local and foreign market.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 3.5 Price distribution[[3]](#footnote-4)** | | | |
| Product Mix | U/m | Current price(Birr) | Weight (%) |
| Reeled yarn Grey Ne 10 | kg | 64 | 5% |
| Reeled yarn Grey Ne 21 | kg | 75 | 3% |
| Conned Yarn Ne 20 | kg | 94 | 7% |
| Conned Yarn Ne 24 | kg | 80 | 40% |
| Conned Yarn Ne 30 | kg | 105 | 30% |
| Conned Yarn Ne 40 | kg | 125 | 15% |
| Average Price/Kg |  | **90.5** | 100% |

.**3.2 Plant capacity and production program**

**3.2.1 Plant capacity**

Relaying on the projected data obtained from the market, the spinning mill is supposed to produce different kinds of yarn counts at a capacity of 25 ton/day. The machinery technology allows it to produce product mix of ranging from 10Ne to 60Ne.

The spinning mill will work 320 days per annum and 21 days per day in 3 shifts. The total working days in the year excludes Sundays and public holydays.

The product mix consists of both ring spun yarn and open end yarns at different factor and counts. In the ring spun yarn categories combed yarn and carded are inclusive.

**3.2.2 Production program**

The planned capacity cannot be achieved in the establishment year of the spinning mill. In a period of 2 years, the plan comes to be certain. The integral reasons for these are gradual build up in labor productivity and fine tuning of machineries. It is estimated that production starts at 80% plant capacity in the first year and the plant reaches its full planned capacity at the second year.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.6 Production Program** | | | | |
| Year | 1 | 2 | 3 | 4 and above |
| Capacity Utilization (%) | 80 | 100 | 100 | 100 |
| Operation(Tons) | 6400 | 8000 | 8000 | 8000 |

**4. Raw Materials and other inputs**

**4.1 Raw Materials**

The main raw material required to produce spun yarn is lint cotton. As well known, cotton is obtained from local cotton suppliers. Besides, most regions in the country have the potential to grow cotton having different fines, staple length and color.

Along with cotton, different kinds of materials are used in the manufacturing of cotton yarn. Among the materials paper cones, plastic bobbins and cops, cans and plastic bags are very crucial for the spinning process. The total cost of these packing materials reaches up to 3% of the total cotton cost per annum.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table 4.1 Raw and Auxiliary materials & costs[[4]](#footnote-5)** | | | | | | |
| S/n | Description | U/M | Qty | Cost(Birr) | | |
|  | **A. Raw material** |  |  | LC | FC | TC |
| 1 | Cotton Fiber | Tone | 6400 | 50,000 |  | 320,000,000 |
| 2 | Polyester Fiber |  |  |  |  |  |
|  | Sub Total |  |  |  |  | **320,000,000** |
|  | **B. Auxiliary material** |  |  |  |  |  |
| 1 | Packing materials | Tone | 89.6 | 28,571 |  | 2,559,962 |
| 2 | Jute sack(Bag) | Tone | 128 | 10,000 |  | 1,280,000 |
|  | Sub Total |  |  |  |  | **3,839,962** |
|  | **C. Miscellaneous** |  |  |  |  | 3,200,000 |
|  | Sub Total |  |  |  |  | **3,200,000** |
|  | Total |  |  |  |  | **327,039,962** |

**4.2 Utilities**

Electricity, fuel and water are the three major utilities required by the plant. Total annual cost of major utility items at full operation capacity of the plant is Birr 11,477,067.Details are shown in the table below

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 4.2 Utilities Requirement** | | | | |
| S/N | Utility | Requirements (Annual) | Unit price | Cost(Birr) |
| 1 | Electricity | 10,666,667kwh | 0.55 Birr/Kwh | 5,866,667 |
| 2 | Fuel(Diesel Oil) | 384000lt | 14.50 Birr/lt | 5,568,000 |
| 3 | Water | 16000 m3 | 2.65 Birr/m3 | 42,400 |
| Total | |  |  | **11,477,067** |

**5. Location and Site**

Location of the plant is determined on the proximity of raw materials, availability of infrastructure, availability of skilled man power and distance to potential market outlet.

In view of this, the envisaged plant will be established in Oromiya regional state at Sebeta industrial zone.

**6. Technology and Engineering**

**6.1 Production process**

Yarn manufacturing process starts with stock cleaning and mixing of ginned cotton. After removing trash and foreign materials, the chute is transfers for further process of intense cleaning and mixing to carding. In this condition, the material becomes in a form of rope called carded sliver.

The carded sliver goes to drawing frames. In these processes the sliver becomes more even and well blended. Depending on the demand of the production schedule and staple length of fiber, the sliver obtained from the drawing frame goes to roving frame, comber machine or open end spinning.

The following chart shows the process flow in the envisaged spinning mill

Open End

Combing

Drawing

Cotton mixing

Blow room

Carding

Winding

Combed yarn

Open End Yarn

Drawing

Winding

Ring frame

Carded Yarn

Roving

Ring Frame

Roving

**6.2 Sources of Technology**

Mostly European technologies are better to be considered as source of technology for establishing spinning mill. Especially, Germany, Switzerland and Italy are the prime suppliers of yarn manufacturing technology and spinning machines. Among these machineries Marzoli, Rieter, Trutzchler, Lakshmi and other brands have the reputation to be the best choice for the source of technology for the spinning plant. For air conditioning equipments Luwa, Switzerland is chosen.

**6.3 Engineering**

Machinery and equipment the required cotton spinning machineries and equipments for the project are listed in the table 6.1

The machinery capacity is selected in a way that it could produce 25 tons/day without bottle necks along the production line.

The total cost of machinery and equipment is estimated at Birr 690 million, out of which 685 million Birr will be required in foreign currency.

Air conditioning equipments are needed for production of all preparatory section (such as blowing room, carding room, roving frame room and ring frame room), pinning section and yarn finishing sections. Proper air blowing and ducting lines have to be installed for appropriate operation in the spinning mill.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 6.1 Machinery and Equipment requirement & Cost for spinning Mill[[5]](#footnote-6)** | | | | | | | |
| S/N | Description | Brand | Origin | U/M | Qty | Price(Birr) | |
| U/p(Birr) | TC(Birr) |
| 1 | Blow room Equipments | Trutzchler | Germany | Set | 1 | 15,102,096 | 15,102,096 |
| 2 | High speed card | Reiter | Swizerland | pcs | 8 | 41,588,128 | 332,705,024 |
| 3 | High speed Draw Frame Breaker | Reiter | Swizerland | pcs | 3 | 1,440,873 | 4,322,620 |
| 4 | High speed Draw Frame Finisher | Reiter | Swizerland | pcs | 3 | 1,440,873 | 4,322,620 |
| 5 | Roving Frame | Sussean | Swizerland | pcs | 4 | 22,732,630 | 90,930,520 |
| 6 | Ring Frame 1000 spindle | Reiter | Swizerland | pcs | 13 | 5,320,524 | 69,166,812 |
| 7 | Auto Conner 100spd | Murata | Japan | pcs | 7 | 4,000,000 | 28,000,000 |
| 8 | Doublers 120spd | Murata | Japan | pcs | 2 | 2,113,100 | 4,226,200 |
| 9 | Twisters 160spd | Murata | Japan | pcs | 2 | 1,536,800 | 3,073,600 |
| 10 | Lap former | Reiter | Swizerland | pcs | 2 | 5,306,973 | 10,613,946 |
| 11 | comber | Reiter | Swizerland | pcs | 4 | 8,189,260 | 32,757,040 |
| 12 | Open end rotor spinning 500 spd | Orlicon | Germany | pcs | 3 | 4,500,000 | 13,500,000 |
| 13 | Reeling | Toyoda | Japan | pcs | 10 | 200,000 | 2,000,000 |
| 14 | Cotton weighing machine |  | Japan | pcs | 2 | 100,000 | 200,000 |
| 15 | Spinning Laboratory equipment | Uster | Swizerland | Set | 1 | 4,300,000 | 4,300,000 |
| 16 | Steam Generation unit 1 ton/hr | Loose | Germany | pcs | 1 | 500,000 | 500,000 |
| 17 | Air conditioning | Luwa | Swizerland | set | 1 | 40,000,000 | 40,000,000 |
| 17 | Compressor GA 50 | Atlascopco | Belgium | pcs | 3 | 1,000,000 | 3,000,000 |
| 18 | Water treatment | Spirox | Germany | set | 1 | 4,500,000 | 4,500,000 |
| 19 | Fire Fighting plant | Iveco | Italy | Set | 1 | 10,000,000 | 10,000,000 |
| 20 | Electric power plant | Siemens | Germany | set | 1 | 5,000,000 | 5,000,000 |
| 21 | Stand by Electric power Generator | Caterpilar | USA | pcs | 2 | 500,000 | 1,000,000 |
| 22 | Mechanical Workshop |  | Italy | set | 1 | 1,000,000 | 1,000,000 |
| 23 | Electrical and Electronic workshop | Siemens | Italy | set | 1 | 1,000,000 | 1,000,000 |
| 24 | Miscellaneous |  |  | set | 1 | 4,000,000 | 4,000,000 |
|  | FOB Price |  |  |  |  | 185,371,258 | **685,220,478** |
|  | Freight, Insurance, customs & Bank charges, Material handling cost |  |  |  |  | 5,000,000 | 5,000,000 |
|  | Total CIF Land cost |  |  |  |  |  | **690,220,478** |

**6.3. Land, building and civil work**

As is the same with all other investment activities, there are four main ingredients for the realization of the project under study and fulfillment of all without exemption of one another is mandatory. There are capital labor, land and entrepreneur skill. Some amount of capital will be injected from the pockets of the promoter’s who also has ample experience and entrepreneur skill some amount of capital will be injected from the bank

The labor force (i.e. skilled semi –skilled and unskilled) is readily available in the labor market currently operational Institution providing specialized education in specific production or services machine operation, and the like will be instrumental in the supply of the required labor force. The only remaining constraint to the realization of the project under study will be land.

The construction and implementation of the project and to the supplemental facilities indicated in the above section of this paper will required a minimum of 40,000 meter square of land. The location of the land is already identified to be at Sebeta wereda in Sebeta town location adjacent to Jimma road which is to the left of the main road. The location is easily accessible for all sorts of infrastructure including roads transport electricity, telephone line, water etc.

The regional government of Oromia is already preparing plots in these areas for possible takeover by perspective investor, and expects to benefit from this opportunity in order to materialize the project under study..

If the promoter of this project gets the land 12birr/ m2 then the total land cost will be birr 28,800,000 out of this amount 10% down payment birr 2,880,000 will be paid . The remaining balance will be paid within 40 years after the end of grace period. The total investment cost for land, building and civil works will be 120 million birr.

**7. Man power and training requirements**

**7.1 Man power requirement for operation**

Table 7.1 below, shows the list of manpower required along with annual labor cost. Total manpower needed, including skilled and unskilled labor is 267 persons.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 7.1 Man power Requirement of spinning mill and Annual labor cost** | | | | |
| S/N | Description | Req No | Monthly salary | Annual salary |
| 1 | Factory Manager | 1 | 9,000 | 108,000 |
| 2 | Secretary | 1 | 3,000 | 36,000 |
| 3 | Production and Tech Manager | 1 | 7,500 | 90,000 |
| 4 | Production Head | 1 | 6,000 | 72,000 |
| 5 | Maintenance head | 1 | 6,000 | 72,000 |
| 6 | Shift Leader | 4 | 4,000 | 192,000 |
| 7 | Production supervisor | 4 | 3,500 | 168,000 |
| 8 | Mechanical maintenance supervisor | 1 | 3,500 | 42,000 |
| 9 | Elecrical Supervsor | 1 | 3,500 | 42,000 |
| 10 | Machine Operators | 171 | 800 | 1,641,600 |
| 11 | Mechanic | 10 | 1,300 | 156,000 |
| 12 | Electrician | 5 | 1,300 | 78,000 |
| 13 | Doffing gangs | 14 | 600 | 100,800 |
| 14 | Quality and Laboratory manager | 1 | 7,500 | 90,000 |
| 15 | Process testers | 6 | 2,000 | 144,000 |
| 16 | Marketing Manager | 1 | 7,500 | 90,000 |
| 17 | Adminstration and Finance manager | 1 | 7,500 | 90,000 |
| 18 | Acountant | 3 | 5,000 | 180,000 |
| 19 | Clerks | 3 | 1,000 | 36,000 |
| 20 | Cashier | 1 | 1,200 | 14,400 |
| 21 | Purchasers | 1 | 1,500 | 18,000 |
| 22 | Store Keepers | 4 | 1,000 | 48,000 |
| 23 | Guard | 7 | 700 | 58,800 |
| 24 | Messenger and cleaner | 1 | 600 | 7,200 |
| 25 | Driver | 3 | 800 | 28,800 |
| 26 | Cleaner | 20 | 600 | 144,000 |
|  | Sub Total |  |  | **3,747,600** |
|  | Employee Benefit( %) | 15% |  | 562,140 |
|  | Grand Total | 267 |  | **4,309,740** |

**7.2 Man power requirement for Project execution**

Table 7.2 below, shows the list of manpower required along with annual labor cost. Total manpower needed, including skilled and unskilled labor is 40 persons.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 7.2 Man power Requirement of spinning mill project** | | | | |
| S/N | Description | Req. No | Monthly salary/head | Annual salary |
| 1 | Project Manager | 1 | 15,000 | 180,000 |
| 2 | Project Engineer (Civil) | 1 | 10,000 | 120,000 |
| 3 | Project Engineer (Mechanical) | 1 | 10,000 | 120,000 |
| 4 | Project Engineer (Electrical) | 1 | 10,000 | 120,000 |
| 5 | Process Engineer(Textile) | 1 | 10,000 | 120,000 |
| 6 | Construction Forman | 1 | 6,000 | 72,000 |
| 7 | Electrician | 4 | 4,000 | 192,000 |
| 8 | Mechanics and Plumbers | 6 | 4,000 | 288,000 |
| 9 | Secretary | 1 | 3,000 | 36,000 |
| 10 | Finance and Administration | 1 | 10,000 | 120,000 |
| 11 | Accountant | 1 | 7,000 | 84,000 |
| 12 | Purchaser | 1 | 5,000 | 60,000 |
| 13 | Cashier | 1 | 1,500 | 18,000 |
| 14 | Daily Laborer | 12 | 2,000 | 288,000 |
| 15 | Driver | 1 | 1,000 | 12,000 |
| 16 | Guard | 6 | 1,000 | 72,000 |
|  | Sub Total |  |  | 1,902,000 |
|  | Employee Benefit( %) | 30% |  | 570,600 |
|  | Grand Total |  |  | 2,472,600 |

**7.3 Training, Design and Consultancy**

The total cost required for design, consultancy, training and commissioning is estimated to be 10 million birr.

|  |  |  |
| --- | --- | --- |
| **Table 7.3 Design, consultancy ,training and test run cost** | | |
| S/N | Description | Est. Budget/year(Birr) |
| 1 | Engineering, Design & consultancy fee | 4,000,000 |
| 2 | training | 2,000,000 |
| 3 | Commissioning and test run with 10% contingency | 4,000,000 |
| 4 | Total | 10,000,000 |

**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 | 1 year |
| Source of Finance | 30% equity and 70% Loan from bank |
| Tax Holidays | 5 years |
| Bank Interest rate | 8.50% |
| Discount for cash flow | 8.50% |
| Value of Land | Based on the lease rate of Oromiya |
| Spare parts & Repair and Maintenance | 5% 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 day of coverage)** | |
| Raw Material Local | 30 days |
| Raw Material Foreign | 120 days |
| Factories supplies in stock | 30 days |
| Spare part in stock and Maintenance | 60 days |
| Work in Progress | 5 days |
| Finished Product | 20 days |
| Account receivable | 30 days |
| Cash in Hand | 20 days |
| Accounts payable | 30 days |

**8.2 Investment**

The investment cost of the project including working capital is estimated at Birr 918 million. The owner shall contribute 30% of the finance in the form of equity while the remaining 70% is to be financed by bank loan.

**Table 8.1 Total initial investment**

|  |  |  |  |
| --- | --- | --- | --- |
| Item | LC | FC | Total |
| Land | 2,880,000 |  | 2,880,000 |
| Building and Civil Work |  | 118,000,000 | 118,000,000 |
| Office Equipment |  | 8,000,000 | 8,000,000 |
| Vehicles |  | 6,000,000 | 6,000,000 |
| Plant machinery and equipment |  | 690,220,478 | 690,220,478 |
| Total Fixed investment cost |  | 822,220,478 | 822,220,478 |
| Pre-Production(Capital Expenditure) |  | 12,472,600 | 12,472,600 |
| Total initial investment cost |  | 834,693,078 | 834,693,078 |
| Working capital at full capacity | 83469307.8 |  | 83,469,308 |
| Total | 86,349,308 | 834,693,078 | **918,162,386** |

**8.3 Production Cost**

The total production cost at full capacity operation is estimated at Birr 514 million. raw material and utilities accounts for 80%.while repair and maintenance costs 5% of the raw material cost.

|  |  |
| --- | --- |
| **Table 8.2 Production cost at Full capacity** | |
| Raw material Requirement | Cost |
| 1.Local raw material | 408,799,951 |
| 2.Foreign raw material |  |
| Total | 408,799,951 |
|  |  |
| **Table 8.3 Total Production cost at full capacity** | |
| Items | Cost |
| 1. Raw Material | 408,799,951 |
| 2.Utilities | 11,477,067 |
| 3.Wages and salaries | 4,309,740 |
| 4.Spares and Maintenance | 34511023.9 |
| Factory Cost | 459,097,782 |
| 5. Depreciation | 44,905,544 |
| 6.Misclenous | 10,300,000 |
| Total Production cost | 514,303,326 |

**8.4 Financial Evaluation**

**I. Profitability**

According to the projected income statement (See Annex 1) the project will generate profit beginning from the second 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:

BEP = Fixed Cost

Sale –Variable Cost at full capacity.

The project will break even at 18.5 % of capacity utilization

**III. Payback Period**

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

**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 growth and transformation plan of the government.

**A. Profit Generation**

The project is found to be financially viable and earns on average a profit of Birr 280million 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 country.

**B. Tax Revenue**

In the project life under consideration, the region will collect about Birr 800 million from corporate income tax. Such result create additional fund for the 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 60 professionals as well as support stuffs.

**D. Pro Environment Project**

The proposed production process is environment friendly.

1. Source central statistical Agency [↑](#footnote-ref-2)
2. Source Growth and Transformation plan [↑](#footnote-ref-3)
3. Source Textile industry development institute [↑](#footnote-ref-4)
4. Source Textile industry development institute [↑](#footnote-ref-5)
5. Source Machinery Manufacturers catalogue [↑](#footnote-ref-6)