Project on Ethiopia's garment industry

(Proposed production unit by analyzing industry data till 2011)

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**Executive Summary**

According to the International Trade Center's (ITC) 2011 trade report, Ethiopia imported 83,324,000 USD worth of the total 196,786,089,000 USD worth of clothing items imported globally. Using these figures as a baseline and assuming annual growth rates of 2% and 4%, respectively, the world's import demand for apparel products is projected to reach 204,736,247,000 USD in 2013, or roughly 50 billion pieces per year, and Ethiopia is projected to import 90,123,238 USD, or roughly 22 million pieces per year. The country has a total manufacturing capacity of over 73 million woven and knitted clothes, of which only about 75% (56.25 million pieces) are used (in 2012). About 27.5% (15.48 million pieces) of the nation's total production were exported the year before. According to the aforementioned hypotheses, there is now roughly 25% (18.25 million pieces) of unutilized capacity, which would cover the local demand by about 13 million pieces on a proportional basis. Thus, after subtracting 13 million from 22 million, we are left with 9 million capacity gaps, which are sufficient to fulfill the additional local demand for a variety of clothing items. By 2022, the global import demand is anticipated to be 60 billion pieces per year, with 31.5 million pieces per year for Ethiopia.

**This project proposes and analyzes the construction of a garment factory with a 1,500,000-piece annual production capacity that will produce a variety of clothing items, including baby clothes, jackets, coats, shirts, and blouses. The proposed plant is expected to sell 69% of its goods on the global market and the remaining 31% on the domestic market, allowing the project's promoter to take advantage of the large market prospects on both sides of the ocean.**

The anticipated total investment cost is Birr 48,004,668.50, of which 14.3% is needed for equipment and machinery, 13.5% is needed for working capital, 45% is needed for construction and civil work, and the remaining 27.2% is needed for rent on the property, a car, office supplies, and other pre-production costs. For 499 people, the initiative will result in job opportunities.

The project is economically feasible, with a payback period of three years and a breakeven point that will be reached at about 28% of capacity.

Generally, the project has a backward linkage effect with the textile industries, which are enormously developing throughout the country. The establishment of such a factory will have a foreign exchange saving and earning effect on the country by exporting to the world market and substituting the current imports.

1. **Product description and application**

The term "apparel" refers to things that are ready to wear garments made through various manufacturing processes that entail several phases, starting with an idea or design concept and concluding with a final product.

The primary goods produced by the envisioned factory are infant clothing, coats, jackets, shirts, and blouses. They can be worn either as everyday attire or as work attire, depending on the operation.

These goods are made to the specifications of the customer using a variety of fabric types, including cotton textiles, polyester fabrics, nylon fabrics, polyester-cotton mixed fabrics, denim fabrics, and others.

1. **MARKET STUDY AND PLANT CAPACITY**

**3.1 MARKET STUDY**

**3.1.1. Supply-Demand Analysis**

The world's population is currently approaching seven billion people and is continuing to expand. In addition, the bulk of the world's population's economies are occasionally observed growing. This was because most of the world's continents, including Africa, East and Middle Asia, and South America, improved their economic policies to raise the well-being of their populations. And it is apparent that people spend more on buying food and clothing the better off they are economically. Therefore, as long as the people’s expanding capacity continues improving in parallel with population growth, it makes this time the most strategic for textile industries in general and garment factories in particular than ever before.

Due to rising labor costs in nations like Turkey, Italy, and others, manufacturing sectors began to move to Africa and other developing nations. Contrarily, compared to other nations, Ethiopia possessed a labor force that was considerably less expensive and had good access to raw materials. **All of the aforementioned factors encouraged the textile industry to grow dramatically and have an impact on the nation's economy.**

As analyzed by the data; even though, there is an apparel production capacity of about 20 million pieces of woven garment and 53 million pieces of knitted garments per year in the country (*attainable capacity in 2012/13- source TIDI*), there is still bigger domestic and international apparel product demand.

For the next 10 years, the market segment for the planned project is 69% geared toward the global market and 31% toward the local market. Even though the market for developing countries is still enormous and the government had expected to export textile items as shown in the following table in its five-year Growth and Transformation Plan, Ethiopia has only sold a small amount of clothing during the previous ten years.

Table 3.1 Export plan of knitted and woven garments

| Year (EC) | Knitted Garment (Million USD) | Weaved Garment  (Million USD) | Total  (Million USD) | Growth Rate (%) |
| --- | --- | --- | --- | --- |
| 2010/11 | 35 | 30 | 65 | - |
| 2011/12 | 70 | 60 | 130 | 100 |
| 2012/13 | 158 | 135 | 293 | 125 |
| 2013/14 | 245 | 210 | 455 | 55 |
| 2014/15 | 350 | 300 | 650 | 43 |

**Table 3.2 List of apparel products exported from year 2002 up to 2011**

**a/ Export in Net-Mass (Kg)**

| **Products Category** | **2002 GC** | **2003 GC** | **2004 GC** | **2005 GC** | **2006 GC** | **2007 GC** | **2008 GC** | **2009 GC** | **2010 GC** | **2011 GC** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Men's suits, jackets, trousers etc & shorts | 159.00 | 35,781.00 | 26,074.80 | 73,497.80 | 127,464.73 | 101,580.33 | 230,794.83 | 63,259.93 | 79,146.87 | NA |
| Men's Shirts | 0 | 26,898.00 | 113,882.10 | 34,918.02 | 137,871.68 | 34,035.38 | 133,414.37 | 37,887.51 | 84,623.30 | NA |
| Women's blouses and shirt | 0 | 0 | 16,053.00 | 3,343.10 | 14,044.80 | 4,588.74 | 3,329.15 | 79,551.63 | 17,302.40 | NA |
| Women's suits, jackets, dresses skirts etc & shorts | 2,608.00 | 10,929.00 | 56,354.30 | 168,343.60 | 132,173.75 | 114,430.25 | 178,382.56 | 29,748.88 | 15,147.27 | NA |
| Babies Garment | 12,000.00 | 3,206.00 | 1,617.00 | 190.00 | 60.00 | 0 | 0 | 619.00 | 62.00 | NA |
| ***Sub Total*** | ***14,767.00*** | ***76,814.00*** | ***213,981.20*** | ***280,292.52*** | ***411,614.96*** | ***254,634.70*** | ***545,920.91*** | ***211,066.95*** | ***196,281.84*** | ***NA*** |
| Others | 35,716.00 | 41,306.00 | 481,825.90 | 156,163.38 | 90,865.30 | 97,335.35 | 251,502.14 | 172,913.76 | 573,969.23 | NA |
| **TOTAL SUM** | **50,483.00** | **118,120.00** | **695,807.10** | **436,455.90** | **502,480.26** | **351,970.05** | **797,423.05** | **383,980.71** | **770,251.07** | NA |

***Source: Extracted from Ethiopian Custom & Revenue Authority’s Report Data Base***

**b/ Export in CIF Value (USD)**

| **Products Category** | **2002 GC** | **2003 GC** | **2004 GC** | **2005 GC** | **2006 GC** | **2007 GC** | **2008 GC** | **2009 GC** | **2010 GC** | **2011 GC** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Men's suits, jackets, trousers etc & shorts | 1252.66 | 109,395.38 | 133,701.84 | 416,199.55 | 256,069.92 | 383,349.92 | 640,583.54 | 181,833.87 | 372,782.61 | 5,523,000.00 |
| Men's Shirts | 0 | 81,672.84 | 296,523.54 | 150,779.52 | 332,130.43 | 161,705.54 | 897,504.22 | 173,275.85 | 302,803.55 | 3,010,000.00 |
| Women's blouses and shirt | 0 | 0 | 104,850.00 | 9,673.67 | 24,351.95 | 15,328.78 | 17,170.95 | 134,671.80 | 114,523.37 | 1,707,000.00 |
| Women's suits, jackets, dresses skirts etc & shorts | 29,985.70 | 109,022.94 | 252,770.04 | 558,504.26 | 387,911.84 | 180,010.20 | 932,301.12 | 80,681.26 | 75,125.11 | 934,000.00 |
| Babies Garment | 14,927.52 | 4,789.11 | 2,601.42 | 913.75 | 651.59 | 0 | 0 | 4,465.41 | 556.88 | 1,000.00 |
| ***Sub Total*** | ***46,165.88*** | ***304,880.27*** | ***790,446.84*** | ***1,136,070.75*** | ***1,001,115.73*** | ***740,394.44*** | ***2,487,559.83*** | ***574,928.19*** | ***865,791.52*** | ***11,175,000.00*** |
| Others | **93,812.56** | **136,632.52** | **1,281,530.73** | **712,240.8** | **283,456.27** | **389,269.79** | **1,211,135.26** | **949,765.65** | **5,504,117.22** | **3,904,000.00** |
| **TOTAL SUM** | **139,978.44** | **441,512.79** | **2,071,977.57** | **1,848,311.55** | **1,284,572.00** | **1,129,664.23** | **3,698,695.09** | **1,524,693.84** | **6,369,908.74** | **15,079,000.00** |

***Source: Extracted from Ethiopian Custom & Revenue Authority’s Report Data Base (for 2002-2010) and from International Trade Center’s Report Data Base (for 2011)***

**Table 3.3 List of apparel products imported from year 2002 up to 2011**

**a) Import in Net-Mass (Kg)**

| **Products Category** | **2002 GC** | **2003 GC** | **2004 GC** | **2005 GC** | **2006 GC** | **2007 GC** | **2008 GC** | **2009 GC** | **2010 GC** | **2011 GC** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Men's suits, jackets, trousers etc & shorts | 3,386,339 | 3,158,269 | 3,117,306.1 | 3,338,977.9 | 3,975,624.03 | 4,607,668.03 | 4,174,741.29 | 2,803,183.56 | 2,567,027.71 | NA |
| Men's Shirts | 1,058,841.00 | 1,075,427.00 | 1,166,219.67 | 1,362,717.44 | 1,400,606.93 | 1,261,987.18 | 1,090,756.96 | 858,196.92 | 1,089,465.78 | NA |
| Women’s Blouse & Shirts | 1,424,375.00 | 3,352,335.00 | 4,408,382.15 | 5,282,327.25 | 4,428,796.86 | 3,909,073.72 | 3,793,738.67 | 3,086,521.82 | 3,559,410.19 | NA |
| Women's suits, jackets, dresses skirts etc & shorts | 733,204.00 | 1,094,561.00 | 1,732,912.63 | 2,025,307.75 | 1,895,197.33 | 1,940,545.21 | 2,158,051.19 | 2,386,480.43 | 3,126,041.46 | NA |
| Babies Garments | 1,024,064.00 | 1,091,768.00 | 1,272,262.00 | 1,332,488.86 | 1,930,724.17 | 1,564,047.98 | 1,517,166.18 | 1,822,585.25 | 1,879,744.86 | NA |
| ***Sub Total*** | ***7,626,823.00*** | ***9,772,360.00*** | ***11,697,082.55*** | ***13,341,819.20*** | ***13,630,949.32*** | ***13,283,322.12*** | ***12,734,454.29*** | ***10,956,967.98*** | ***12,221,690.00*** | NA |
| Others | **2,475,492.00** | **3,875,495.00** | **3,467,175.47** | **3,505,380.22** | **3,782,793.26** | **4,237,241.26** | **4,048,017.78** | **4,080,570.40** | **4,672,460.83** | NA |
| **TOTAL SUM** | **10,102,315.00** | **13,647,855.00** | **15,164,258.02** | **16,847,199.42** | **17,413,742.58** | **17,520,563.38** | **16,782,472.07** | **15,037,538.38** | **16,894,150.83** | NA |

***Source: Extracted from Ethiopian Custom & Revenue Authority’s Report Data Base***

**b) Import in CIF Value (USD)**

| **Products Category** | **2002 GC** | **2003 GC** | **2004 GC** | **2005 GC** | **2006 GC** | **2007 GC** | **2008 GC** | **2009 GC** | **2010 GC** | **2011 GC** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Men's suits, jackets, trousers etc & shorts | 13,766,670.83 | 13,130,278.60 | 15,001,308.90 | 17,974,381.63 | 21,889,123.00 | 27,225,822.62 | 23,062,478.78 | 18,855,294.69 | 18,717,243.38 | 27,843,000.00 |
| Men's Shirts | 2,789,159.25 | 3,120,870.93 | 4,394,774.93 | 5,401,072.27 | 6,247,318.39 | 5,660,860.32 | 4,315,687.65 | 3,953,866.70 | 5,282,019.74 | 18,992,000.00 |
| Women’s Blouse & Shirts | 4,045,438.95 | 7,245,238.58 | 10,129,091.21 | 15,484,537.70 | 14,248,330.31 | 15,172,403.72 | 15,250,053.17 | 14,174,649.41 | 18,983,938.03 | 7,109,000.00 |
| Women's suits, jackets, dresses skirts etc & shorts | 3,264,093.32 | 5,306,697.13 | 7,667,497.75 | 9,547,458.51 | 8,900,725.81 | 11,233,351.41 | 11,693,413.43 | 15,651,913.47 | 21,326,958.79 | 5,801,000.00 |
| Babies Garments | 2,963,509.05 | 3,761,129.44 | 5,278,856.55 | 5,986,315.18 | 9,204,267.31 | 7,254,710.43 | 5,974,899.67 | 8,188,282.53 | 8,610,384.69 | 2,402,000.00 |
| ***Sub Total*** | ***26,828,871.40*** | ***32,564,214.68*** | ***42,471,529.34*** | ***54,393,765.29*** | ***60,489,764.82*** | ***66,547,148.50*** | ***60,296,532.70*** | ***60,824,006.80*** | ***72,920,544.63*** | ***62,147,000.00*** |
| Others | **7,855,640.01** | **12,833,379.91** | **11,622,542.29** | **13,378,082.75** | **14,295,128.35** | **18,309,526.87** | **18,820,719.88** | **22,052,314.54** | **25,984,858.8** | **21,179,000.00** |
| **TOTAL SUM** | **34,684,511.41** | **45,397,594.59** | **54,094,071.63** | **67,771,848.04** | **74,784,893.17** | **84,856,675.37** | **79,117,252.58** | **82,876,321.34** | **98,905,403.43** | **83,326,000.00** |

***Source: Extracted from Ethiopian Custom & Revenue Authority’s Report Data Base (for 2002-2010) and from International Trade Center’s Report Data Base (for 2011)***

**3.** **1.2. Projected Demand**

The following facts may be determined from previously published export and import records (Table 3.2 a, b and Table 3.3 a, b) of the country's garment items.

* For the past 10 years, exports of clothing in general and specific items like women's blouses, shirts, skirts, and shorts as well as men's shirts, trousers, and shorts in particular have increased year after year. The sales of the aforementioned items alone totaled nearly 11 million USD in 2011, which is almost 136% more than the previous year, 2010 (Table 3.2 b).
* • The import of the same items increased steadily from the years 2002, when there were about 26.8 million USD imported, to 2010, when there were approximately 72.9 USD imported. The growth between 2002 and 2010 was 172%. Sales in 2011 totaled 62.15 million USD, which is 14.7% less than in 2010. Even if there is a significant imbalance that amounts to -51.15 million USD when computed for the aforementioned items solely for the year 2011 (Table 3.2, 3.3), the decrease in imports might plausibly be linked to the rise in production and domestic sales of the country.

It is reasonable to infer from this study that exports of garment items in general, and those stated products in specific, in particular , are likely to rise during the next 10 years.

In addition to this analysis, the "International Trade Centre (ITC)" report states that Ethiopia imported 83,324,000.00 USD (0.04%) of the total 196,786,089,000.00 USD global import of garment items in 2011. Contrarily, the data shows that Ethiopia's total exports in the same year were just $15,078,000.00 USD, or just 0.008% of the total quantity of goods bought globally ($196,702,765,000.00 USD), excluding Ethiopia.

This study (ITC report) states that the global import of garments increased on average by 2% from 2007 to 2011 and by roughly 16% from 2010 to 2011. Ethiopia's import growth rate was reported to be 4% from 2007 to 2011 and 7% from 2010 to 2011. However, statistics from ECRA showed that imports decreased by 14.7% for the years 2010–2011, which was attributed to data inconsistencies across sources.

Similarly, the ITC study said that Ethiopia's export growth rate was 267% for the years 2010–2011 and 93% for the years 2007–2011.

The goal of the nation's Growth and Transformation Plan (GTP) was to expand exports of clothing items in general, as shown in table 3.1 above.

We can therefore forecast that the demand for apparel products in general will follow the trends listed below if we assume that global and national imports continue to grow at the same average growth rates of the years 2007 to 2011, which are 2% and 4%, respectively, and take the values of 2011 as the base line, which were 196,786,089,000.00 USD and 83,324,000.00 USD, respectively.

| **Year** | **World Import (USD)** | **National Import (USD)** | **World /Except Ethiopia/ Import (USD)** |
| --- | --- | --- | --- |
| 2011 | 196,786,089,000.00 | 83,324,000.00 | 196,702,765,000.00 |
| 2012 | 200,721,810,800.00 | 86,656,960.00 | 200,635,153,840.00 |
| 2013 | 204,736,247,000.00 | 90,123,238.40 | 204,646,123,761.60 |
| 2014 | 208,830,971,900,00 | 93,728,167.94 | 208,737,243,732.06 |
| 2015 | 213,007,591,400.00 | 97,477,294.65 | 212,910,114,105.35 |
| 2016 | 217,267,743,200.00 | 101,376,386.40 | 217,166,366,813.60 |
| 2017 | 221,613,098,100.00 | 105,431,441.90 | 221,507,666,658.10 |
| 2018 | 226,045,360,000.00 | 109,648,699.60 | 225,935,711,300.40 |
| 2019 | 230,566,267,200.00 | 114,034,647.60 | 230,452,232,552.40 |
| 2020 | 235,177,592,600.00 | 118,596,033.50 | 235,058,996,566.50 |
| 2021 | 239,881,144,400.00 | 123,339,874.80 | 239,757,804,525.20 |
| 2022 | 244,678,767,300.00 | 128,273,469.80 | 244,550,493,830.20 |

Table 3.4: World and Ethiopian Apparel Import projections for years 2011 -2022

We may compute the supply gaps that the market experienced as a result of the demand expansion in the subsequent succeeding years if the factories that were accessible in the year 2011 continue to exist, produce, and sell the quantity that was imported in that year. These may be derived by subtracting the 2011 supply from the anticipated ones for the plan's covered years, as shown in Table 3.5.

We can legitimately assume that there is extremely high market demand for the aforementioned items both locally and worldwide when we take into account the export and import circumstances of garment products at the national and international levels. Consequently, there would be a competition for market share.

Table 3.5: Apparel Supply Gaps Projected for the years 2011-2022

a/ National supply gap

| **Year** | **National Import (USD)** | **National Supply (USD)** | **Supply Gap (USD)** |
| --- | --- | --- | --- |
| 2011 | 83,324,000.00 | 83,324,000.00 | 0.0 |
| 2012 | 86,656,960.00 | 83,324,000.00 | 3,332,960.00 |
| 2013 | 90,123,238.40 | 83,324,000.00 | 6,799,238.40 |
| 2014 | 93,728,167.94 | 83,324,000.00 | 10,404,167.94 |
| 2015 | 97,477,294.65 | 83,324,000.00 | 14,153,294.65 |
| 2016 | 101,376,386.40 | 83,324,000.00 | 18,052,386.40 |
| 2017 | 105,431,441.90 | 83,324,000.00 | 22,107,441.90 |
| 2018 | 109,648,699.60 | 83,324,000.00 | 26,324,699.60 |
| 2019 | 114,034,647.60 | 83,324,000.00 | 30,710,647.60 |
| 2020 | 118,596,033.50 | 83,324,000.00 | 35,272,033.50 |
| 2021 | 123,339,874.80 | 83,324,000.00 | 40,015,874.80 |
| 2022 | 128,273,469.80 | 83,324,000.00 | 44,949,469.80 |

b/ World supply gap

| **Year** | **World /Except Ethiopia/ Import (USD)** | **World /Except for Ethiopia/ Supply (USD)** | **World Supply Gap (USD)** |
| --- | --- | --- | --- |
| 2011 | 196,702,765,000.00 | 196,702,765,000.00 | 0.0 |
| 2012 | 200,635,153,840.00 | 196,702,765,000.00 | 3,932,388,840.00 |
| 2013 | 204,646,123,761.60 | 196,702,765,000.00 | 7,943,358,761.60 |
| 2014 | 208,737,243,732.06 | 196,702,765,000.00 | 12,034,478,732.06 |
| 2015 | 212,910,114,105.35 | 196,702,765,000.00 | 16,207,349,105.35 |
| 2016 | 217,166,366,813.60 | 196,702,765,000.00 | 20,463,601,813.60 |
| 2017 | 221,507,666,658.10 | 196,702,765,000.00 | 24,804,901,658.10 |
| 2018 | 225,935,711,300.40 | 196,702,765,000.00 | 29,232,946,300.40 |
| 2019 | 230,452,232,552.40 | 196,702,765,000.00 | 33,749,467,552.40 |
| 2020 | 235,058,996,566.50 | 196,702,765,000.00 | 38,356,231,566.50 |
| 2021 | 239,757,804,525.20 | 196,702,765,000.00 | 43,055,039,525.20 |
| 2022 | 244,550,493,830.20 | 196,702,765,000.00 | 47,847,728,830.20 |

Therefore, surplus demands for apparel products at world level and national level could be summarized as follows.

Table 3.6 Summary of Apparel Surplus Import Demand Projected for the coming ten years

| **Year** | **World Surplus Import Demand (USD)** | **National Surplus Import Demand (USD)** | **Total Surplus Import Demand (USD)** |
| --- | --- | --- | --- |
| 2013 | 7,943,358,761.60 | 6,799,238.40 | 7,950,160,013.00 |
| 2014 | 12,034,478,732.06 | 10,404,167.94 | 12,044,884,914.00 |
| 2015 | 16,207,349,105.35 | 14,153,294.65 | 16,221,504,415.00 |
| 2016 | 20,463,601,813.60 | 18,052,386.40 | 20,481,656,216.00 |
| 2017 | 24,804,901,658.10 | 22,107,441.90 | 24,827,011,117.00 |
| 2018 | 29,232,946,300.40 | 26,324,699.60 | 29,259,273,018.00 |
| 2019 | 33,749,467,552.40 | 30,710,647.60 | 33,780,180,219.00 |
| 2020 | 38,356,231,566.50 | 35,272,033.50 | 38,391,505,610.00 |
| 2021 | 43,055,039,525.20 | 40,015,874.80 | 43,095,057,411.00 |
| 2022 | 47,847,728,830.20 | 44,949,469.80 | 47,892,680,312.00 |

As a result, the capacity of the plant for export sales can be determined using the global excess demand shown in Table 3.6, and the capacity of the plant for local market sales may be determined using the entire national demand for imports forecasted and presented in Table 3.5. The total production capacity of the plant is therefore set at 2% of the projected 2013 national total demand for apparel, which is 1,802,465.00 USD, and 0.05% of the projected 2013 world surplus demand for apparel, which is 3,971,679.00 USD, for export.

The impact of variables like inflation and other factors causes the average price per kilogram of clothing goods to vary from year to year. In order to calculate the sales achievement over the plan year, it is expected that the average selling price per kilogram of the items would increase by 5% on average. The following Table portrays the amount planned for export and local market, which is calculated based on assumptions stated above.

Table 3.7 Sales plan for the envisaged project (Export & Local sales)

| **Year** | **World Surplus Import Demand (USD)** | **Export Plan (USD)** | **National Total Import**  **Demand (USD)** | **Local Sales Plan (USD)** | **Total Sales Plan** |
| --- | --- | --- | --- | --- | --- |
| 2013 | 7,943,358,761.60 | **3,971,679.00** | 90,123,238.40 | **1,802,465.00** | **5,774,144.00** |
| 2014 | 12,034,478,732.06 | **4,170,263.00** | 93,728,167.94 | **1,892,588.00** | **6,062,851.00** |
| 2015 | 16,207,349,105.35 | **4,378,776.00** | 97,477,294.65 | **1,987,217.00** | **6,365,993.00** |
| 2016 | 20,463,601,813.60 | **4,597,715.00** | 101,376,386.40 | **2,086,578.00** | **6,684,293.00** |
| 2017 | 24,804,901,658.10 | **4,827,600.00** | 105,431,441.90 | **2,190,907.00** | **7,018,507.00** |
| 2018 | 29,232,946,300.40 | **5,068,980.00** | 109,648,699.60 | **2,300,452.00** | **7,369,432.00** |
| 2019 | 33,749,467,552.40 | **5,322,430.00** | 114,034,647.60 | **2,415,475.00** | **7,737,905.00** |
| 2020 | 38,356,231,566.50 | **5,588,551.00** | 118,596,033.50 | **2,536,248.00** | **8,124,799.00** |
| 2021 | 43,055,039,525.20 | **5,867,978.00** | 123,339,874.80 | **2,663,061.00** | **8,531,039.00** |
| 2022 | 47,847,728,830.20 | **6,161,378.00** | 128,273,469.80 | **2,796,214.00** | **8,957,592.00** |

As presented in the table about 69% of the total sale will be targeted for export and the remaining 31% is reserved for local market.

**3.1.3 Pricing and Distribution**

According to import statistics examined for the year 2012, the average cost per kilogram of clothing goods was 7.40 USD, or Birr 136.00. (Source: ERCA's Annual Import Report; data analyzed by TIDI's Marketing Directorate) 7.80 USD is used as the average selling price for goods produced by the imagined firm, with an assumption that this price will rise by 5% in the next year.

Table 3.8 Estimated Average selling price per unit kilogram for different product categories

| **Product Mix** | **U/M** | **Unit Price (USD/Kg)** | **Share of Product Mix (%)** | **Price Share (USD)** |
| --- | --- | --- | --- | --- |
| Men's suits, jackets, trousers etc & shorts | Kg | 8.00 | 25 | 2.00 |
| Men's Shirts | Kg | 7.80 | 25 | 1.95 |
| Women's blouses and shirts | Kg | 7.25 | 20 | 1.45 |
| Women's suits, jackets, dresses skirts etc & shorts | Kg | 7.50 | 20 | 1.50 |
| Babies Garments | Kg | 9.00 | 10 | 0.90 |
| **Average Selling Price** | |  | **100** | **7.80** |

Be aware that goods labelled "men's" and "women's" include all sizes, from extra small to small, worn by boys, girls, men, and women.

**3.2 Plant capacity and production program**

**3.2.1 Plant capacity**

We may infer from the sales plan in Table 3.7 and the average sales price in Table 3.8 that the plant's yearly production capacity will be 740,275 Kg of clothing overall. Out of all the products: - Men's suits, jackets, trousers, etc. & shorts will make up 25% of the shipment (185,068 kg); Men's Shirts will make up 25% of the shipment (185,068 kg); Women's blouses & shirts will make up 20% of the shipment (148,055 kg); and Baby Clothes will make up 10% of the shipment (74,027 kg).

The production capacity of the factory is summarised in the following Table, which converts measurement units from kilogram to pieces. The plant capacity is based on an assumption of 320 working days per year, with one shift lasting 8 hours each day.

As a result, 1,493,242 items of various clothing will be manufactured at full capacity, and sales of 5,774,140 USD (106,821,600 Birr at the average currency rate of 1 USD = 18.5 Birr) are anticipated to be made.

Table: 3.9 Annual Sales plan for the envisaged plant

| **Product Mix** | **Annual Production Capacity** | | **Average Unit Price /piece (USD)** | **Selling Price** | |
| --- | --- | --- | --- | --- | --- |
| **Quantity (Kg)** | **Quantity (Piece)** | **(USD)** | **(Birr ’000)** |
| Men's suits, jackets, trousers etc & shorts (1 pc = 1.75kg) | 185,069 | 105,754 | 14.00 | 1,480,552.00 | 27,390.20 |
| Men's Shirts (1 pc = 350gm) | 185,068 | 528,766 | 2.73 | 1,443,530.00 | 26,705.30 |
| Women's blouses and shirts  (1 pc = 300gm) | 148,055 | 493,517 | 2.18 | 1,073,398.00 | 19,857.85 |
| Women's suits, jackets, dresses skirts etc & shorts (1 pc = 1.25kg) | 148,055 | 118,444 | 9.38 | 1,110,412.00 | 20,542.60 |
| Babies Garments (1 pc = 300gm) | 74,028 | 246,760 | 2.70 | 666,252.00 | 12,325.65 |
| **Total** | **780,289** | **1,493,241** | **3.87** | **5,774,144.00** | **106,821.60** |

**Note** that the average weight for unit product categories is taken by estimation, taking the size (small – extra-large) and material variations (cotton, polyester, nylon, etc...) in to considerations.

**3.2.2 Production program**

The plant will reach its intended capacity in the fourth year after it is founded. The project will be completed in 12 months, according to the project timetable. According to estimates, production will operate at this capacity for the next ten years, starting at 85% plant capacity in the first year, 95% in the second, and 100% in the third.

In this case, the average attainable Ethiopian machine operator's performance is taken into consideration to establish the total capacity of the proposed plant. Production capacity of a garment factory is strongly reliant on operator's performance. It is estimated that the plant will operate for 8 hours each day, 300 days per year.

Table 3:10 Production Program

| **Product Categories** | **U/M** | | **Plant Capacity Utilization** | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1st year (85%)** | | **2nd year (95%)** | | **3rd year and above (100%)** | |
| Men's suits, jackets, trousers  etc & shorts | Pcs | | 89,891 | | 100,466 | | 105,754 | |
| Men's Shirts | >> | | 449,451 | | 502,328 | | 528,766 | |
| Women's blouses and shirts | >> | | 419,489 | | 468,841 | | 493,517 | |
| Women's suits, jackets, dresses skirts etc & shorts | >> | | 100,677 | | 112,522 | | 118,444 | |
| Babies Garments | >> | | 209,746 | | 234,422 | | 246,760 | |
| **Total** | **>>** | **1,269,254** | | **1,418,579** | | **1,493,241** | |

The plant will be configured to house both knitted and woven garment product production operations. According to the aforementioned hypotheses, the facility will be able to produce 5000 different woven and knitted clothes on average per day during one shift. Even higher production capacity may be possible with the same plant configuration, depending on how straightforward the product type is and how well the operators execute.

**4. Raw Materials and utilities**

**4.1 Raw Materials**

Materials like fabrics, buttons, sewing threads, and accessories like zippers, shoulder pads, labels, etc. are needed to create clothing. For a limited time, all raw materials will be purchased locally, with the exception of a few components and accessories that are not produced locally. However, due to a number of projects that are currently in the works and some bonded warehouses that foreign manufacturers plan to open locally, it will soon be expected that all the raw materials will be accessible locally.

Table 4.1 below presents annual requirements and corresponding costs of raw materials at full production capacity.

Table 4.1 Raw materials requirement and Cost at full capacity

| **S/N** | **Material** | **U/M** |  | **Unit** | **Cost (Birr)** | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **type** | **Qty** | **Price** | **LC** | **FC** | **Total Cost** |
| 1 | Fabric | kg | 780,289 | 85.00 | 56375880.00 | 9948685.00 | 66,324,565.00 |
| 2 | Buttons | kg | 15,554 | 50.85 | 118,638.00 | 672,283.00 | 790,921.00 |
| 3 | Sewing thread | kg | 8,789 | 74.55 | 98,283.00 | 556,937.00 | 655,220.00 |
| 4 | Accessories | - | Lump sum | - | 516,040.00 | 2924223.00 | 3,440,263.00 |
| 5 | Packing material | - | >> >> | - | 2,064,158.00 | 0 | 2,064,158.00 |
| **Grand Total** | | | | | **59,172,999.00** | **14,102,128.00** | **73,275,127.00** |

**4.2 Utilities**

Electricity and water are the two major utilities required by the envisaged plant. Total annual cost of major utility items at full operation capacity of the plant is Birr 281,300.00. Details are shown in the table below:

| Table 4.2 Utilities Requirement and Cost at full capacity | | | | |  |
| --- | --- | --- | --- | --- | --- |
| S/N | Utility | Annual Requirement (KWh/year) | Unit price/KWh | Total Cost(Birr) | Remarks |
| 1 | Electric power | 126,000KWh | 0.55 | 69,300.00 | 350m/n \* 150W/m/n \* 8hrs/day \* 300days/year |
| 2 | Water | 10,000 M3 | 3.80 | 38,000.00 | 20M3/day\*300day/year |
| 3 | Fuel and oils | 12,000lit | 14.5 | 174,000.00 | 40lit/day\*300day/year |
| **Total** | |  |  | **281,300.00** |  |

**5. Location and Site**

The location of the plant is chosen based on factors such as the accessibility of infrastructure, the availability of skilled labor, and the distance to potential market outlets.

**6. Technology and Engineering**

**6.1 Production process**

The process of making clothes typically entails Product Design, Fabric Selection and Inspection, Patternmaking, Grading, Marking, Spreading, Cutting, Bundling, Sewing, Pressing or Folding, Finishing and Detailing, Dyeing and Washing, QC, etc.

The following discussion covers the key steps in producing apparel products at the envisioned factory.

**Receiving fabrics**

In this step of the process, the supplier will deliver the fabric that will be used to make clothing. The supplier may be a manufacturer, wholesaler, or retailer, depending on the procurement method and the nature of the goods. Prior to being released for the following step, the fabrics received from the supplier are temporarily stored in the raw material stores.

**Fabric Relaxing**

The term "relaxing" describes a procedure that enables material to relax and contract before being manufactured. The material is constantly under tension during all of the different stages of the textile manufacturing process, including weaving, dyeing, and other finishing processes, so this step is essential. Fabrics can shrink as a result of the relaxing process, reducing additional shrinkage during customer use.

Fabric relaxing can be carried out mechanically or manually. Manual fabric relaxing typically involves placing the fabric bolt on a spinner and pulling the material manually through a device that releases tension as it is pulled through. Mechanical fabric relaxing performs this same process in an automated manner.

This process includes a quality assurance step to guarantee that the fabric meets customer expectations for quality. During this process, each bolt of fabric is manually spot-checked on a backlit surface to check for production flaws like color inconsistencies or fabric flaws. Fabrics that fail to meet customer standards are returned to the supplier (manufacturer or whole seller of retailer).

**Spreading, Form Layout, and cutting**

After being relaxed, fabric is moved to the spreading and cutting area of the facility that makes clothes. In order to prepare the fabric for cutting, it is first divided into uniform plies and spread, either manually or with the aid of an automated system. Fabric is spread to:

* give workers the ability to spot fabric flaws;
* during cutting, manage the fabric's tension and slack; and
* Ascertain that each ply is correctly positioned on top of the others.

The kind of fabric, spreading technique, cutting apparatus, and size of the garment order all affect how many plies are in each spread.

The next step involves manually laying out garment forms or patterns on top of the spread or programming an automated cutting system to do so. Finally, the fabric is cut using either manually operated cutting equipment or a computerized cutting system to the shape of the garment forms.

**Embroidery and Screen Printing**

Embroidery and screen printing are two processes that occur only if directly specified by the customer; therefore, these processes are commonly subcontracted to off-site facilities. Embroidery is carried out using automated machinery, frequently with several machines working simultaneously to embroider the same pattern on various garments. There could be 10 to 20 embroidery stations per production line. Customers can ask for embroidery to add logos or other adornments to clothing.

The process of screen printing involves using presses and textile dryers to apply paint-based graphics to fabric. Screen printing specifically entails passing an ink-filled stencil through a porous screen with a rubber blade in order to transfer the ink onto the fabric. The fabric that has been screen printed is then dried to set the ink. It is possible for this process to be partially automated or to be carried out primarily at manually operated stations. Like embroidery, screen printing is completely up to the customer, who may ask to have logos or other graphics added to clothing, or to have brand and size information printed instead of attached to tags.

**Sewing**

An assembly line is used to sew clothes, and each step down the line brings the garment closer to completion. Operators of sewing machines take a bundle of cut fabric and sew the same area of the garment repeatedly before handing off the finished area to the following operator. As an illustration, the first operator might stitch the collar to the body of the garment while the second operator might stitch the sleeve to the body. At the end of the sewing line, quality control is carried out to make sure the garment has been assembled correctly and is free of any manufacturing flaws. The garment will be repaired or altered as necessary at designated sewing stations. Designer clothes are created from fabric scraps over the course of this time-consuming process.

**Spot Cleaning and Laundry**

Employees in charge of quality control look for cosmetic flaws, stains, or other spots on the garment that might have developed during the cutting and sewing processes in addition to manufacturing flaws. Stickers are frequently used to identify stains, which are then taken to a spot-cleaning location where the item is cleaned with steam, hot water, or chemical stain removers.

Garment factories frequently have an on-site laundry or have subcontract agreements with off-site laundry operations because some customers request that a garment be completely washed after it is sewn and put together. Washing machines, spinning machines, and dryers are the minimum three types of equipment found in commercial laundry facilities. Some facilities are also equipped to carry out specialized procedures like stone- or acid-washing.

**Ironing**

A garment is moved to the ironing area of the facility for final pressing after it has been fully sewn and put together. Each ironing station consists of an iron and an ironing platform. Although the irons resemble residential models in appearance, they are powered by an on-site boiler. Steam is delivered to the iron through overhead hoses under the control of foot pedals by the workers. The majority of facilities have ventilation systems installed on the ironing platforms, which draw steam through the ironing table and exhaust it outside the factory.

**Packaging and Shipping**

The final steps in preparing a product for retail include folding, tagging, sizing, and packaging the clothing in accordance with customer requirements. Additionally, protective plastic bags can be manually or automatically applied to clothing to keep the fabric neat and pressed throughout shipping. Last but not least, clothing is delivered to client distribution centers in cardboard boxes or PP bags where it is packaged for sale in retail stores or directly to customers if it is produced on demand.

**6.2 Source of Technology**

The intended plant is therefore outfitted with labor-intensive machinery and tools.

**6.3 Machinery and Equipment**

The proposed plant is expected to produce 50% knitted and 50% woven clothing, so the machinery and equipment that will be bought will be arranged to accommodate all necessary facilities. Table 6.1 lists the quantity of machinery and equipment as well as the related costs. The total estimated cost of the machinery and equipment is 355,789.65 USD (Birr 6,582,108.50), of which 288,043.00 USD must be paid in foreign currency and the remaining 37,594.50 USD (Birr 695,498.25) must be paid in local currency.

Table 6.1 Machinery and Equipment Requirement and Cost

| **Sr.** |  |  | **Unit** | **Cost of Machine (USD)** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Description** | **Qty.** | **Price** | **LC** | **FC** | **TC** |
| 1 | Single needle stitching machine | 176 | 600.00 |  | 105,600.00 | 105,600.00 |
| 2 | Double needle stitching machine | 19 | 750.00 |  | 14,250.00 | 14,250.00 |
| 3 | Over lock machine | 55 | 800.00 |  | 44,000.00 | 44,000.00 |
| 4 | Inter lock (cover stitch) machine | 42 | 800.00 |  | 33,600.00 | 33,600.00 |
| 5 | Bar tacking machine | 9 | 800.00 |  | 7,200.00 | 7,200.00 |
| 6 | Blind stitch machine | 3 | 225.00 |  | 675.00 | 675.00 |
| 7 | Zigzag sewing machine | 4 | 2,500.00 |  | 10,000.00 | 10,000.00 |
| 8 | Waist stitching machine | 3 | 600.00 |  | 1,800.00 | 1,800.00 |
| 9 | Button hole making machine | 7 | 1,500.00 |  | 10,500.00 | 10,500.00 |
| 10 | Button attaching machine | 7 | 1,500.00 |  | 10,500.00 | 10,500.00 |
| 11 | Thread winding machine | 1 | 80.00 |  | 80.00 | 80.00 |
| 12 | Collar turning machine | 2 | 1,350.00 |  | 2,700.00 | 2,700.00 |
| 13 | Cuff turning machine | 2 | 1,350.00 |  | 2,700.00 | 2,700.00 |
| 14 | Band knife | 4 | 2,700.00 |  | 10,800.00 | 10,800.00 |
| 15 | Vertical blade cutter | 8 | 570.00 |  | 4,560.00 | 4,560.00 |
| 16 | Drilling machine | 2 | 570.00 |  | 1,140.00 | 1,140.00 |
| 17 | Spreading and Cutting Table (manual) | 4 | 1,350.00 | 5,400.00 | 0 | 5,400.00 |
| 18 | Spreading machine with Table | 1 | 20,000.00 |  | 20,000.00 | 20,000.00 |
| 19 | Fusing machine | 2 | 270.00 |  | 450.00 | 450.00 |
| 20 | Electrical portable ironing machine | 20 | 54.00 |  | 1,080.00 | 1,080.00 |
| 21 | Steam ironing machine | 20 | 267.00 |  | 5,340.00 | 5,340.00 |
| 22 | Vacuum Ironing table | 4 | 267.00 |  | 1,068.00 | 1,068.00 |
| 23 | Plotter with full SW & accessories (set) | 1 | 15,000.00 |  | 15,000.00 | 15,000.00 |
|  | **FOB price** | **396** |  | **5,400.00** | **303,043.00** | **308,443.00** |
| Freight, Insurance, customs & Bank charges, Material handling cost (10%) | | | | 30,404.30 | - | 30,404.30 |
| **Sub total** | | | | **35,804.30** | **303,043.00** | **338,847.30** |
|  | Contingency (5%) | - | - | 1790.20 | 15,152.15 | 16,942.35 |
|  | **CIF Landed Cost** | **-** | **-** | **37,594.50** | **318,195.15** | **355,789.65** |

**6.4 Land use, building and civil work**

The total amount of land needed for the proposed plant is 5950m2. includes a production hall, warehouses for both raw materials and finished goods, a design and pattern-making room, a room for product display, a canteen for both employees and staff, a restroom, a shower/wash room, a security room, offices, and other facilities. 3600m2 will be covered by the buildings' combined floor space (see Appendix-1). Building is expected to cost a total of Birr 21,600,000.00, or 6,000 Birr per square meter.

The typical duration of a land lease is 80 years, with 40 years between lease payments. The land lease rate of Birr 6.5 /M2/year is adopted, which was the minimum lease rate in Oromia 1st grade towns around 2011. 10% down payment is expected at the initial year of land acquisition. The total lease cost will therefore be Birr 3,094,000, of which Birr 309,400 will be paid in advance in the first year and the remaining Birr 2,784,600 will be paid in equal installments of Birr 69,615 over the course of 40 years, following the grace period of three years per year.

**7. Man power and training requirements**

**7.1 Man power requirement**

The estimated number of personnel needed at all levels is 499. This includes the marketing, administrative, and machine operator staffs as well as their assistants and technicians. The list of necessary personnel is shown in the table below, along with the annual labor expense.

Table 7.1 Man power Requirement and annual salary

| **S/N** | **Description** | **No** | **Monthly salary** | **Annual salary** |
| --- | --- | --- | --- | --- |
| 1 | Factory Manager | 1 | 10,000.00 | 120,000.00 |
| 2 | Executive Secretary | 1 | 3,000.00 | 36,000.00 |
| 3 | Departmental Secretaries | 4 | 10,000.00 | 120,000.00 |
| 4 | Departmental Clerks | 5 | 5,000.00 | 60,000.00 |
| 5 | Production and Tech Manager | 1 | 7,500.00 | 90,000.00 |
| 6 | Production Head | 1 | 5,000.00 | 60,000.00 |
| 7 | Technical Head | 1 | 5000.00 | 60,000.00 |
| 8 | Quality Head | 1 | 5,000.00 | 60,000.00 |
| 9 | Production supervisor | 9 | 31,500.00 | 378,000.00 |
| 11 | Quality Control supervisor | 4 | 14,000.00 | 168,000.00 |
| 12 | Mechanical maintenance supervisor | 1 | 3,500.00 | 42,000.00 |
| 13 | Electrical maintenance Supervisor | 1 | 3,500.00 | 42,000.00 |
| 14 | Machine Operators & helpers | 416 | 416,000.00 | 4,992,000.00 |
| 15 | Quality Inspectors | 11 | 11,000.00 | 132,000.00 |
| 16 | Mechanic | 4 | 5,200.00 | 62,400.00 |
| 17 | Electrician | 3 | 3,900.00 | 46,800.00 |
| 18 | Marketing Manager | 1 | 7,500.00 | 90,000.00 |
| 19 | Sales person | 2 | 5,000.00 | 60,000.00 |
| 20 | Administration manager | 1 | 7,500.00 | 90,000.00 |
| 21 | General service personnel | 1 | 2,500.00 | 30,000.00 |
| 22 | HR Personnel | 1 | 2,500.00 | 30,000.00 |
| 23 | Nurse | 2 | 4,000.00 | 48,000.00 |
| 24 | Guard | 8 | 6,400.00 | 76,800.00 |
| 25 | Messengers | 3 | 1,800.00 | 21,600.00 |
| 26 | Driver | 3 | 3,000.00 | 36,000.00 |
| 27 | Cleaner | 5 | 3,000.00 | 36,000.00 |
| 28 | Financial manager | 1 | 7,500.00 | 90,000.00 |
| 29 | Accountant | 2 | 7,000.00 | 84,000.00 |
| 30 | Cashier | 1 | 1,500.00 | 18,000.00 |
| 31 | Purchasers | 2 | 3,000.00 | 36,000.00 |
| 32 | Store Keepers | 2 | 3,000.00 | 36,000.00 |
| **Sub Total** | | **499** | **604,300.00** | **7,251,600.00** |
|  | Employee Benefit (15%) |  | 90645.00 | 1,087,740.00 |
| **Grand Total** | |  | **694,945.00** | **8,339,340.00** |

**7.2 Training requirement**

It is planned to spend an estimated Birr 100,000.00 on on-the-job training for operators and short-term training for supervisors, technicians, and designers.

**8. Financial Analysis**

**8.1 Underlying Assumption**

The information from the chapters before as well as the following hypotheses form the basis for the financial analysis of the proposed plant.

Table: 8.1 Financial Assumptions

| **A. Construction and Finance** | |
| --- | --- |
| Construction period | 12 months |
| 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 | Birr 6.50/M2/year |
| Spare parts & Repair and Maintenance | 5% of the fixed investment |
| **B. Depreciation & Amortization** | |
| 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 Pre-production Expenses**

An estimated Birr 3.66 million will be needed for design, consulting, training, and commissioning.

| Table 8.2 Design, consultancy ,training and test run cost | | |
| --- | --- | --- |
| S/N | Description | Estimated Budget(Birr) |
| 1 | Engineering, Design & consultancy fee | 300,000.00 |
| 2 | Training | 100,000.00 |
| 3 | Commissioning and test run with 10% contingency | 200,000.00 |
| 4 | Other pre-production expenses | 500,000.00 |
| 5 | Interest during construction | 2,558,500.00 |
| **Total** | | **3,658,500.00** |

**Remark:** Additional pre-production costs include those related to company formation, licensing, and registration, as well as commissioning and legal fees.

**8.3 Investment Cost**

The project's total investment cost, including working capital, is pegged at Birr 34.27 million. 30% (12,335,100.00) of the financing will come from the owner in the form of equity, with the remaining 70% (28,781,913.00) being covered by bank loans.

| Table 8.3 Total Initial Investment | | | |
| --- | --- | --- | --- |
| **Item** | **LC** | **FC** | **Total** |
| Land | 3,094,000.00 | - | 3,094,000.00 |
| Building and Civil Work | 14,040,000.00 | 7,560,000.00 | 21,600,000.00 |
| Office Equipment | - | 600,000.00 | 600,000.00 |
| Vehicles | - | 6,000,000.00 | 6,000,000.00 |
| Plant machinery and equipment | - | 6,582,108.50 | 6,582,108.50 |
| **Total Fixed investment cost** | **17,134,000.00** | **20,742,108.50** | **37,876,108.50** |
| Pre-Production | - | **3,658,500.00** | **3,658,500.00** |
| **Total initial investment cost** | **17,134,000.00** | **24,400,608.50** | **41,534,608.50** |
| Working capital at full capacity | **6,470,060.00** | - | **6,470,060.00** |
| **Total** | **23,604,060.00** | **24,400,608.50** | **48,004,668.50** |

**8.4 Production Cost**

At maximum production, the total cost is estimated to be Birr 88.077 million. Raw materials and utilities account for 83.20%, while the rest together costs 16.80% of the total production cost.

| Table 8.4 Total Production cost at full capacity | |  |
| --- | --- | --- |
| **Items** | **Cost** | **%age share** |
| 1. Raw Material | 73,275,127.00 | 83.20 |
| 2.Utilities | 281,300.00 | 0.32 |
| 3.Wages and salaries | 7,101,480.00 | 8.06 |
| 4.Spares and Maintenance (5% of F.I) | 1,533,640.00 | 1.74 |
| 5. Depreciation & Amortization | 3,729,910.00 | 4.23 |
| 6.Marketing and Promotion (salary\*3) | 952,200.00 | 1.08 |
| 7.Adminstrative Expense (salary \*1.2) | 1,203,900.00 | 1.37 |
| **Total Production cost** | **88,077,557.00** | **100** |

**9 Financial Evaluations**

**9.1 Profitability**

According to the projected sales tables and cost calculation tables in previous pages, the project will start making money the first year it is in operation and continue to do so for the duration of its operational life. Over the course of the project, the annual net profit after tax will increase from 10.856 million to 16.15 million birr. Additionally, the total cash flow at the conclusion of the project is Birr 154.45 million.

**9.2 Financial Ratios**

In financial analysis, financial ratios, and efficiency ratios are used as an index or yardstick for evaluating the financial position of a firm. It is also an indicator of the strengths and weaknesses of the firm or project. Some of these ratios calculated for the first year of the project's life are:

Return on sales = Net income/Revenue

= 10,855,794/90,798,360

= 0.12 (12%)

Return on equity = Net profit/Equity

= 10,855,794/14,401,400

= 0.75 (75%)

Return on investment = Net profit/Total Investment

= 10,855,794/48,004,668

= 0.23 (23%)

These financial ratios for all years of the operation life of the project are found to be satisfactory and hence indicate that it is profitable and viable.

**9.3 Break-even Analysis**

The relationship between operating expenses and revenues is established by the break-even analysis. It indicates the point where costs and revenues are equal. In order to achieve this, income statement projection is used to estimate the project's break-even point, taking into account the cost of financing when it begins to operate at full capacity (year 3).

BEP = Fixed Cost/ (Average Unit selling price – Average Variable cost per unit product)

= 6,523,870 (71.22 - 55.54) = 6,523,870/15.68

= 616,055 pieces (BEP in production volume)

= Birr 29,629,939.00 (BEP in Sales volume)

= 27.74% (BEP in percentage)

**9.4 Payback Period**

The payback period is defined as the period required to recover the original investment outlay through the accumulated net cash flows earned by the project. Accordingly, based on the projected cash flow, it is estimated that the project’s initial investment will be fully recovered within 3 years.

**9.5 Internal Rate of Return**

The internal rate of return (IRR) is the annualized effective compounded return rate that can be earned on the invested capital, i.e., the yield on the investment. Put another way, the internal rate of return for an investment is the discount rate that makes the net present value of the investment's income stream total zero. It is an indicator of the efficiency or quality of an investment. A project is a good investment proposition if its IRR is greater than the rate of return that could be earned by alternate investments or putting the money in a bank account. Accordingly, the IRR of this project is computed to be 28.71%, indicating the viability of the project.

**9.6 Net Present Value**

Net present value (NPV) is defined as the total present (discounted) value of a time series of cash flows. NPV aggregates cash flows that occur during different periods of time during the life of a project into a common measuring unit, i.e., present value. It is a standard method for using the time value of money to appraise long-term projects. The NPV indicates how much value an investment or project adds to the capital invested. In principle, it is acceptable if the NPV is non-negative. To calculate NPV, you need to estimate the timing and amount of future cash flows and pick a discount rate equal to the minimum acceptable rate of return. Accordingly, the net present value of the project at an 8.5% discount rate is found to be 2,964,550 USD, which is acceptable.

**9.7 ECONOMIC BENEFITS**

**9.7.1 Earning Foreign currency**

The project will not only save hard currency by eliminating the import of apparel products, but it will also generate foreign exchange by exporting 69% of its output. As a result, during the project's operational life, sales will average 91.22 million USD per year, and by the end of the project's estimated 10-year lifespan, export sales will total 910.8 million USD.

**9.7.2 Job creation**

For 499 people, this project will result in permanent employment opportunities.

**9.7.3 Tax Revenue**

Over the course of the project, the area will receive about 229,000 USD in corporate income tax. These outcomes will lead to more money for the government, which it will use to increase social and other basic services in the area.

**9.7.4 Impact on Environment**

The project is entirely environmentally friendly.