

Pre-Feasibility Study

FABRIC DYEING & FINISHING UNIT

(Knit Fabric)



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Ministry of Industries & Production

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1 EXECUTIVE SUMMARY

- Textile industry is the largest sector of Pakistan economy. It plays a major role in strengthening the economy and also contributing a lion share in earning of much needed foreign exchange for the national exchequer.
- From the year 2005, there will be no quota restrictions for textile products exporting countries like Pakistan. Considering the importance of textile sector, Government of Pakistan constituted a Committee which carried out a study and finalized a report “Textile Vision 2005” on the existing setup of textile sector, its problems and recommendations for further promotion of the sector. The basic objective of “Textile Vision 2005” is to prepare the Pakistani Textile Sector to face the challenges of post quota-free era. In this report, the importance of value added products has been stressed, and it has been predicted that value added products will earn the highest unit value for the country unlike primary products i.e. cotton and cotton yarn.
- High quality processing of fabric is vital for the production of value added items. Dyed fabric is the basic raw material for manufacturing of value added products like readymade garments, bed sheets, curtains, towels, canvas, etc.
- Due to capital intensive nature of dyeing and finishing units, the number of yarn and fabric processing units established in Pakistan are not sufficient to cater to the growing demand of dyed fabric. Presently, there are 600 processing units working in the country. 5% of these units are part of integrated mills, while the rest of the units are independent commercial processing units. Majority of these units have old machinery producing low quality and high production cost due to old technology. The new entrants in the processing industry would have competitive edge over their rivals by having low production cost by using advanced machinery and latest technology.
- The total project cost for setting up a knitted fabric processing unit has been estimated at Rs.61.150 million. It includes land, building, plant and machinery, furniture & fixtures, office equipment, vehicles, preliminary expenses and working capital.
- The project shall be financed through equity contribution by the investor to the extent of 60% and the remaining 40% by a long term bank loan. The re-payment of loan shall be in 5 years commencing six months after the disbursement. The markup on loan shall be 16% per annum.
- Based on the projected financial statements, the returns on the project are as follows:

Project Cost	Rs.61.150 million
Internal rate of return – on project cost	58.8%
Internal rate of return – on equity	91.4%
Payback period (Project) (Based on cash inflows)	1.5 years

2 INTRODUCTION

2.1 Textile Sector – Future Direction

Textile is the largest sector and backbone of Pakistan economy. It contributes more than 60% to the total export earnings, accounts for 46% of the total manufacturing, 8.5% of total GDP and provides employment to 38% of the manufacturing labor force of the country.¹

Value addition is the key to success for our country in the current global economic scenario. With reference to textile industry, Pakistan has been relying on export of primary products like cotton and yarn. However, Government of Pakistan established a committee on textiles which has prepared a report “Textile Vision 2005” to face the challenges of quota free era in 2005. As a result of integrated efforts by the Government and semi government organizations, Pakistani industrialists have started moving in the direction of higher value addition through investing in the balancing, modernization and replacement of the machinery, and up-gradation by acquiring new technologies and know how.

The importance of value addition could be gauged by the fact that export price of cotton is \$1.47/kg rising to \$ 2.78/kg for yarn, \$6.60/kg for grey cloth, \$7.90/kg for finished cloth and \$15/kg for garment, more than nine fold increase over cotton according to a study of APTMA for 1996-97.²

2.2 Fabric Processing

Processing includes bleaching, dyeing and finishing of fabric. For the production of the value added products, dyed fabric is the key element. The processed fabric is converted into garments and other textile made ups. As already mentioned, there are 600 processing units presently working in Pakistan. Out of these, 394 units are woven fabric processing units while remaining 206 units can be further subdivided into knit fabric and yarn processing units. Due to small number of existing processing units and increased demand of value added products, this sector has great potential for investments.

2.3 Knit Fabric Dyeing

Fabric processing can be categorized as woven fabric dyeing and knit fabric dyeing. The exports of woven and knit garments are contributing a major share in the total foreign exchange earnings from textile products. According to Export Promotion Bureau, textile sector earned US\$ 1.238 billion from export of readymade garments and hosiery during July-March 2001-2002. Out of these export earnings, knit hosiery sector contributed US\$ 598 million. The process of knit fabric dyeing is relatively simpler than woven fabric dyeing, therefore comparatively less capital is required to set up a knit fabric dyeing and finishing unit. Hereinafter knit fabric would be referred as fabric.

¹ *Textile Vision 2005*

² www.lcci.org.pk/textiles.html

2.4 Project Brief

The proposed project provides details about the investment in fabric dyeing & finishing unit. This unit will process fabric on commercial basis meeting the requirement of export oriented units as well as the manufacturers of apparel and made-ups for supply to the local market. As most of the processing will be for export oriented units, hence this project would contribute towards earning of foreign exchange for country. Primarily, this project would be established for dyeing and finishing of fabric. However, with the help of additional investment, it could be extended for yarn dyeing and could also be converted into a composite unit.

2.5 Rationale & Justification

The ready made garments sector earned US\$1379.612 million from exports during June-July-March 2006-07 as compared to US\$ 1319.500 million earned during the corresponding period of previous year. Knitwear sector also showed an increasing trend. This sector earned US\$ 1964.587 million in July-March 2006-07 as compared to US\$ 1730.705 million during the corresponding period of previous year.³

The statistical data for the period July-June 2005-2006 and 2006-07 released by the Export Promotion Bureau also indicate that the value addition has become the need of the hour. According to this data, export earnings from raw cotton fell from US\$ 67.206 million to US\$ 50.720 million respectively, whereas cotton yarn maintained its position from US\$ 1424 million to US\$ 1425.784 million.

Processing is the weakest link in the value addition chain in Pakistan, from cotton to textile made ups and garments, and therefore it has tremendous potential for investment and high returns. To cater to the increased demand of value added products, processing industry has emerged as a vital sub-sector in the textile value addition chain.

2.6 Project Cost

The cost of project has been estimated as Rs.61.150 million including land, civil works, plant & machinery, office equipment, furniture fixtures and vehicles. This cost includes preliminary expenses and working capital of Rs.0.350 million and Rs 3.37 million respectively.

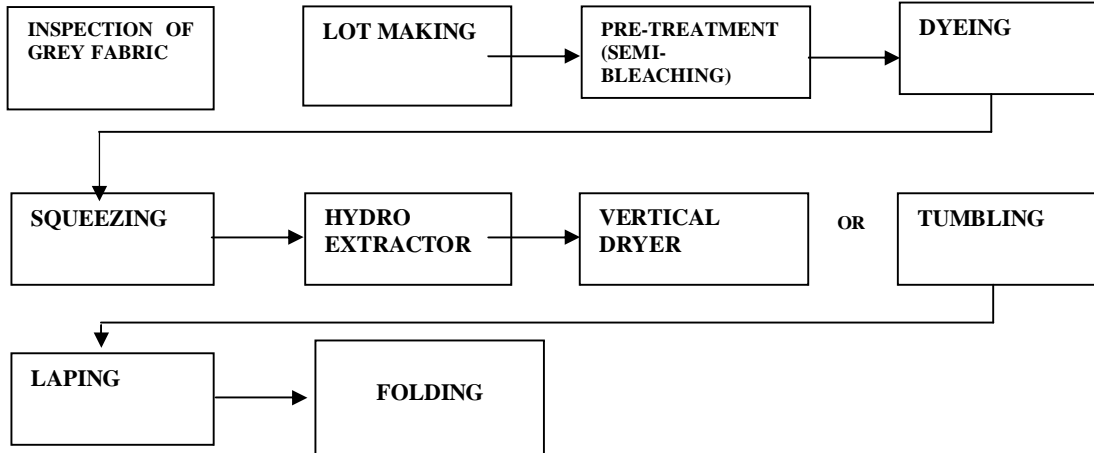
2.7 Financing Plan

The total cost of the project is Rs. 61.150 million including the working capital of Rs 3.37 million. The sponsors of the project will contribute Rs.36.690 million and the remaining amount of Rs.24.460 million will be financed by the bank.

³ Export Promotion Bureau

3 PROCESS FLOW

The Process flow chart of fabric dyeing is given below:



3.1.1 Inspection

The process starts with the receipt of fabric from the parties after confirmation of processing rate per kg and the required color for processing according to the sample. The received fabric is inspected prior to start the process of dyeing/bleaching.

3.1.2 Lot Making

Received fabric is stitched together to make it one roll of 20 to 25 kg. These rolls are stitched to make it one lot for the purpose of bleaching & dyeing. Lot making depends upon the processing of different colors according to the requirement of customers.

3.1.3 Bleaching

Afterwards, fabric is placed in the dyeing machines to start the process of bleaching. For this project, 3 dyeing machines have been recommended and each machine have a dyeing capacity of 400 kg fabric per batch.

3.1.4 Dyeing

After bleaching, the quantity of fabric desired to be dyed is placed in the dyeing machine in the same manner as in the case of bleaching. Then, the recipe of desired color consisting of dyes, water and other chemicals are circulated in the machine to impart the desired color on the fabric.

3.1.5 Hydro Extractor

This machine works just like dryer of a washing machine commonly used in houses. It has a big spinning dryer and fabric is transferred from dyeing machines to this dryer. Then it starts revolving and major quantity of the water is removed from the fabric due to its revolving speed.

3.1.6 Vertical Dryer

This machine normally has four tubes, however number of tubes may increase or decrease depending upon its capacity. Fabric is placed in its tubes and steam is provided in the tubes to semi-dry the fabric.

3.1.7 Tumbling

After vertical dryer, this semi-dry fabric is transferred to Tumblers. This machine is used to control the shrinkage of the fabric. The chances of fabric shrinkage are eliminated after passing through the process of tumbling.

3.1.8 Folding

Before packing, fabric is checked with reference to the desired color shades and other defects in fabric, and if color is not achieved according to the customer's satisfaction, the process of dyeing and finishing is repeated to obtain the desired color. Once approved, the finished fabric is packed in polypropylene bags for onward dispatch to customers.

4 MARKET ANALYSIS

4.1 Target Customers

The target customers of the knit fabric processing unit are stitching and composite units, manufacturing value added products like apparel and made-ups. To procure the processing orders from these composite/stitching units, brochures and other advertising materials will be circulated and visits will be made by the marketing personnel to introduce the new processing unit in the market.

4.2 Market Demand and Supply

The demand for processed fabric is rising in accordance with the increase in production and export of value added products i.e. apparels and made-ups. The export of apparels and made ups is improving not only in value but also in quantity, hence producing more opportunities of higher profitability for existing processing units and inviting new entrants in the processing industry. Since the processing unit is a capital intensive project, therefore number of independent processing units is not as high to meet the growing demand of processed fabric.

4.3 Industry Growth

According to Textile Commissioner's Organization (TCO) there are about 600 Textile Processing Units, of which only 30 units are from integrated mill sector while the rest of the companies are independent commercial dyeing and finishing units. Out of these 600 processing units, 394 units are woven fabric processing units while remaining portion can be further subdivided into knit fabric and yarn processing units. The majority of the independent units are smaller in size, have low technological know how and are unable to cater to the versatile and growing demand of the processed fabric.

Dyes and chemicals form the most important input for the textile processing sector. Pakistan imported 26,250 tonnes of various types of dyes and pigments worth Rs

5.437 billion in 2004-05 and 31,053 tonnes worth Rs 6.679 billion in 2005-06, thus showing an increase of 23% in terms of value. Import of dyes and pigments are given in Table

Table 4-1 Import of Dyes and Pigments in Pakistan (Quantity in Tonnes, Rs. in million)

Commodity	2005-06		2004-05	
	Quantity	Value	Quantity	Value
Disperse Dyes	4,482	411	3,615	398
Acid dyes Premetalise	2,710	541	2,442	458
Basic Dyes	1,396	236	932	158
Direct Dyes	558	76	466	66
Vat dyes indigo blue	2,649	798	2,602	814
Other dyes	758	324	384	148
Reactive Colors	10,309	2,692	8,417	2,120
Pigments Prep	3,529	1,195	3,039	981
Dyes Sulphur	4,099	286	4,147	254
Other Dyes sythetic	560	120	206	40
Total	31,053	6,679	26,250	5,437

Production of cloth (mill sector) increased from 568 million sq. meters in 2001-02 to 583 million sq. meters in 2005-06, thus showing an average 8% per annum. Out of total production of 683 million sq. meters cloth during 2005-06 in mill sector, 49% produced in grey form, 30% dyed and printed, 15% blended and 6% bleached. Category-wise production of cloth (mill-sector) is given in Table-4.

Table 4-2 Production of Cloth: category wise (Qty in 000 sq. Meters)

Year	Grey	Bleached	Dyed & Printed
2000-01	277,931	19,939	124,820
2001-02	317,247	18,281	155,869
2002-03	295,791	32,227	161,515
2003-04	332,361	43,841	205,503
2004-05	498,095	51,453	292,743
2005-06	488,350	52,360	312,490

4.4 Viable Economic Size

The processing unit is a capital intensive project and most of the overheads are of a fixed nature. The larger project size would fetch higher returns due to the economies of scale. However, keeping in view the availability of funds a minimum processing capacity of 3,200 kg fabric per day is recommended. This unit will operate on the basis of two shifts of twelve hours each. This project would not be profitable below the proposed capacity due to incurrence of heavy fixed overheads. However, higher capacity would earn higher returns for the investor. The civil construction requirement and the combination of plant & machinery have been proposed on the basis of abovementioned capacity.

Table 4-3 Plant Capacity

Fabric Dyeing per Batch at the capacity of	100%	1,200KG
Estimated time per Batch for Dyeing in hrs		6
Hours per day		24
Batches per Day		4.00
Capacity of Fabric Dyeing per Day		4,800
Fabric Processed per Month		144,000

5 PRODUCT MIX

Following product mix is proposed for the said unit.

Table 5-1 Product Mix Assumed For Fabric Dyeing

Products	Share in Percentage	Quantity in Kgs
Fabric Dyed	100%	144,000
Light Color	30%	43,200
Medium Color	25%	36,000
Dark Color	35%	50,400
Extra Dark Color	10%	14,400

6 RAW MATERIAL

Dyes and chemical used for the processing of fabric play a very vital role in the processing industry and their quality should never be compromised. Normally, imported dyes are used in the processing industry due to their better quality. Major origins of dyes into Pakistan are Korea, Japan, China, India and Germany. However local dyes are also used in Pakistan depending upon the requirement of the customer. Clariant, MB dyes and Sardar dyes are some of the major manufacturers of dyes in Pakistan. 60% of Pakistani industry uses Reactive Colors, whereas the use of wet dyes and disperse dyes limits to 20%, 20% respectively. Detail related to raw material consumption is mention beneath.

Table 6-1 Cost of Color Used

Raw Material	Cost Per kg Cloth
Bleach	2.65

Reactive Colors	
Light Color	4.00
Medium Color	13.00
Dark Color	22.00
Extra Dark Color	100.00

Table 6-2 Raw Material Consumption

Description	Light Color	Medium Color	Dark Color	Extra Dark
Color Consumption in % to Cloth Quantity(grams)	1-5%	5-8%	8-50%	50% & above
Color Consumption in Rs.	4	13	22	100
Monthly Cost in Rs.	172,800	468,000	1,108,800	1,440,000

7 LAND & BUILDING

7.1 Location

This project should be set up outside the vicinity of metropolitan area. Because of the heavy drainage of chemically reacted water, the ideal location should be near any main sewerage line.

7.2 Land

Keeping in view the proposed capacity, approximately Four (4) Kanals of land i.e. eighteen thousand (18,000) square feet is sufficient to set up the processing unit. An amount of Rs 2 million has been allocated for the acquisition of four (4) Kanals land in the area of Raiwind, Lahore. However, cost of land may vary according to location. In this report, prices of land for Lahore city has been considered, however, prices may considerably vary in the other cities of Pakistan.

Table 7-1 Land Requirement

Land	Sq. Feet	Rate Per sq.ft	Total Cost
Total Area required	18,000	111.11	2,000,000

7.3 Building

Total covered area would be 20,450 square feet including pavements and drive ways. Civil work includes the following:

- Production Hall
- Store Rooms
- Boiler Room
- Admin Department
- Maintenance store
- Toilet/washroom
- Drive ways and pavements

Building will be comprised of 3 floors. Maize nine floor, ground and first floor. The total cost of construction has been estimated at Rs.18.360 million. Details for the said cost are shown in the following Table.

Table 7-2 Construction Cost

Building	Area in Sq.ft	Rate Per Sq.ft	Total Cost
Production Hall	11,250	1,000	11,250,000
Store Rooms			
<i>Receiving Store</i>	1,350	800	1,080,000
<i>Finished Goods Store</i>	1,350	800	1,080,000
<i>Dyes & Chemicals Store</i>	900	800	720,000
<i>Maintenance Store</i>	900	800	720,000
Boiler Room	1,000	800	800,000
Admin Department	2,250	1,000	2,250,000
Wash rooms	450	800	360,000
Drive Ways and pavements	1,000	100	100,000
Total Covered Area	20,450		18,360,000

8 PLANT & MACHINERY

The combination of plant & machinery consists of both imported and local machinery. For this project, the prices of imported machinery are taken from local agent of a foreign manufacturer (Fong's National Engineering Co., Hong Kong). The Italian and German manufacturers are also producing good quality dyeing machinery, but their prices are two to three times higher than that of Fong's machinery. A complete list of plant & machinery required for a fabric dyeing unit along with cost is given below:

Table 8-1 Plant & Machinery

Machinery	Cost in Rs.
Imported	
Three (3) Scouring, Bleaching and Dyeing Machines (Imported) - Capacity of 400 K.G. (2 tubes of 200 K.g. each)	22,932,360
One (1) Razing Machine (Imported)	1,107,000
Air Compressor (360 C.F.M) Pressure 5-7 Bars (Imported)	1,254,000
Total Imported machinery	25,293,360
Local	
Lifting Crane	325,000
Gas Boiler (3 Tons Steam)	3,600,000
One (1) Inspection Machine	100,000
Two (2) Hydro Extractors	748,000
Three (3) Tumblers	1,125,000
Lab Equipment	625,000
Winch Machine 96*120*42inch	665,000

Generator (200 KVA)	1,800,000
Total Local Machinery	8,988,000
Custom Duties @ 5% of import value	1,264,668
Total	35,546,028

8.1 Suppliers

The plant and machinery for fabric dyeing and finishing unit is available both in local as well as in international market. The names and addresses of some local suppliers and agents of foreign manufacturers are given in the following Table:

Table 8-2 Machinery Suppliers' List

Name of the Company	Address	Contact No.
FONG's National Engineering Co. Ltd	219 G-II Model Town Lahore	Ph: 042-5883989, Fax: 042-5883989 Akber@wol.com.pk
Mubarak Impex	Auriga Complex Ext Blvd Apt # 2, 2 nd Floor, Main Boulevard – Gulberg-II Lahore.	Ph: 042-5757566, 5755159 Fax: 042-5755661
Noon International	6 th Floor, EFU House, Jail Road, Lahore	Ph 042-5715845-48 Fax: 042-5715849 non@brain.net.pk
Poly Craft	Near Telephone Exchange, 8 K.M. Multan Road, Lahore	Ph: 042-7844962, 7831890 Fax: 042-7831890 Polycraft@hotmail.com
Noorani Industries (Pvt) Ltd	Samundari Road, Faisalabad	Ph: 041-544683 541456 Fax: 041-545692 noranind@fsd.paknet.com.pk noorani82@hotmail.com
Gemini Enterprises	Suit # 504, Tahir Plaza, Block 7& 8, K.C.H.S.U. Off Shahrah-e- Faisal Karachi	Ph: 021-4314816 Fax: 021-4314817 gemin@inet.com.pk
Intertex Corporation	407,411,412 Uni Towers I. I. Chundarigarh road, Karachi	Ph: 021-2415088-2410850 Fax: 021-2417247 intertex@super.net.pk

9 OTHER EQUIPMENT

9.1 Furniture and Fixture

Furniture and fixtures mainly include tables, chairs, sofas, fans & lights, carpet, curtains and fire extinguishers. It is estimated that the furniture and fixtures of Rs.433, 500 would be purchased. The details of furniture & fixtures are given below.

Table 9-1 Furniture and Fixture

Items	Number	Unit Cost	Total Cost
Executive Table	4	24,000	96,000
Computer Table	6	6,000	36,000
Other Table	8	6,000	48,000
Sofas	4	13,000	52,000
Executive Chairs	4	3,500	14,000
Chairs	25	1,500	37,500
Fans & Lights	20	2,500	50,000
Fire Extinguisher	10	10,000	100,000
Total			433,500

9.2 Office Equipment

It includes computers, air conditioners, telephone and fax etc. An amount of Rs.439,200 has been provided for acquiring the required office equipment. The detail of office equipments is provided below:-

Table 9-2 Office Equipment

Items	Number	Unit Cost	Total Cost
Fax	1	12,000	12,000
Air Conditioner	4	30,000	120,000
Computer	6	25,000	150,000
Printer Laser	2	20,000	40,000
Telephone Exchange	1	50,000	50,000
File Cabinets	10	6,000	60,000
Calculator	6	1,200	7,200
Total			439,200

9.3 Vehicles

Primarily one shezore van of Rs. 650,000 will be purchased for office and transport related work

10 HUMAN RESOURCE REQUIREMENT

Total staff of 53 persons is required for a fabric dyeing project of this size. Human resource requirement, along with annual cost of salaries for a fabric dyeing unit on the basis of two shifts is given below:

Description	No. of Persons for 2 Shifts	Salary per Month (Rs.)	Salary per Annum (Rs.)
Production Staff			
Plant Manager	1	80,000	960,000
Shift In Charge	2	25,000	600,000
Operators	12	7,000	1,008,000
Helpers	6	5,500	396,000

Boiler Operator	2	15,000	360,000
Helpers	2	6,000	144,000
Lab In charge	2	25,000	600,000
Packing Deptt	4	6,000	288,000
Store Room	3	6,000	216,000
Maintenance	4	8,000	384,000
Total	38		4,992,000

Administrative Staff Salaries	No. of Persons for 2 Shifts	Salary Per Month (Rs.)	Salary per Annum (Rs.)
Managing Director	1	100,000	1,200,000
Finance Manager	1	30,000	360,000
Accountant	1	12,000	144,000
Assistant Accountant	1	8,000	96,000
Cashier	1	8,000	96,000
Labor Assistant	1	10,000	120,000
Telephone Operator	1	6,000	72,000
Security Guards	4	6,000	288,000
Peon	2	5,000	120,000
Sweeper	2	5,000	120,000
Total	15		2,616,000

11 THE PROJECT ECONOMICS

11.1 Project Cost

The details of the cost of project are as follows:

Table 11-1 Project Cost

Description	Cost in Rs.
Assets	
Land	2,000,000
Building - Civil Works	18,360,000
Plant & Machinery	35,546,028
Office Equipment	439,200
Furniture & Fixture	433,500
Vehicles	650,000
Sub Total	57,428,728
Preliminary Expenses	
Electricity Connections Charges (100 KVA)	100,000
Water Drilling Charges (Tube well)	150,000
Incorporation Expenses (Pvt Ltd Co.)	50,000
Traveling & Conveyance	25,000
Other Expenses	25,000
Sub Total	350,000
Working Capital	3,372,102
Total Assets	Rs.61,150,830

Table 11-2 Financing Plan

Description	Share	Cost in Rs.
Bank Loan	40%	24,460,332
Equity	60%	36,690,498
Total Cost		Rs.61,150,830

12 REGULATIONS AND TAXATION

12.1 Certificate (by Chief Inspector Boiler Punjab)

After the installation of the steam boiler, a certificate should be obtained from the Chief Inspector Boiler Punjab who will visit the place of the boiler and inspect the condition of the boiler as per specifications provided by the supplier.

12.2 Income Tax

As this unit will be incorporated as a private limited company, the rate of income tax on its taxable profit is 45%.

13 RECOMMENDED STRATEGY

13.1 Key Success Factor(s)

The profitability of this project would depend upon the following key factors:

- Selection of technical staff would be very crucial decisions to be made by the management.
- Reprocessing cost of fabric must be controlled to limit the repetition of dyeing process.
- Continuous efforts should be made for marketing and up-gradation of the technology.
- Use of quality dyes and chemicals is also very important for quality results and satisfaction of the customers.

13.2 Threats

The following risks may be faced by the unit:

- Plant shut down due to lack of commercial processing orders from customers may cause huge losses due to fixed overheads.
- Shrinkage of margins due to increase in the prices of imported dyes in the international market.

14 BASIS FOR FINANCIAL PROJECTIONS

14.1 Inflation Rate

10% inflation rate is considered while making the projections for revenues and expenses.

14.2 Revenue Assumptions

14.2.1 Quantity of Fabric Processed

In the processing industry, most of the units are working 24 hours and 7 days a week. Therefore, revenue of this unit is taken on the basis of 360 days. This project has the capacity of processing 1,200 kg. fabric and normally it will take 6 hours to complete one batch of fabric dyeing. As there are 24 hours in a day, therefore this unit will be completing 4 batches of 4,800 kg fabric processing in one day. Plant efficiency of 63% has been assumed in the first year of operations, and in subsequent years, it is assumed at 98% with 20% growth rate. However, plant efficiency depends upon the local and international market conditions of value added products.

14.2.2 Processing Rate of Fabric per kg

It is very difficult to assume per kg rate of fabric for estimating the processing revenues. The processing rates vary from unit to unit, and also depend upon the quantity of fabric being received from customers. A large quantity of fabric processing would attract economies of scale and would attract competitive rates of processing from the different dyeing units. On the other hand, a smaller quantity of fabric would be charged at a higher rate by the processing units to recover fixed overheads being incurred on processing. As explained above, the plant capacity is apportioned for bleaching and dyeing on 40% and 60% utilization respectively. The 60% capacity of fabric dyeing has been further subdivided into four categories i.e. light color, medium color, dark color and extra dark color. For the purpose of this project, prevalent market rates of fabric processing and the weighted average sale rate worked out to be as follows:

Table 14-1 Service Charges per Kg

Fabric Dyeing		Sale Rate/kg (Rs.)
Light Color	30%	90
Medium Color	25%	100
Dark Color	35%	115
Extra Dark Color	10%	150

14.3 Depreciation on Assets

14.3.1 Accounting Profit

Depreciation on the assets has been charged on reducing balance method at the following rates for the calculation of accounting profits:

Building	5%
Plant & Machinery	10%
Office Equipment	20%
Furniture & Fixture	10%
Vehicles	20%

14.3.2 Taxable Profit

For the purpose of calculating taxable profit, depreciation has been calculated on the rates as per the Income Tax Law, which is as follows:

Building	5%
Plant & Machinery	10%
Office Equipment	10%
Furniture & Fixture	10%
Vehicles	20%

14.3.3 First Year Allowance

Other than the normal depreciation allowances, first year allowance is also provided on the newly installed plant and machinery for the purpose of providing benefit to the entrepreneur. The first year allowance is calculated on the following basis:

Plant & Machinery 80% of Written Down Value

14.3.4 Multiple Shift Allowance

In addition to normal depreciation and first year allowances, multiple shift allowance is also provided for the plant and machinery, which operates on double or triple shift basis. Multiple shift allowance is calculated on the basis number of days worked for two or three shifts during a year. For the purpose of calculating multiple shift allowance, 300 working days are assumed in a year. In this proposed project, plant will run on three-shift basis during the whole year. So multiple shift allowance is calculated and added to the depreciation of plant and machinery for all the ten years. The basis of multiple shift allowance for the plant & machinery for three shifts is as follows:

Plant & Machinery: 100%⁴ of the Normal Depreciation Allowance

14.4 Amortization of Preliminary Expenses

Preliminary expenses amounting to Rs.350,000 will be amortized at the rate of 20% per annum.

14.5 Working Capital

Working capital is calculated on the basis of following assumptions, after taking into account 360 working days in a year:

14.5.1 Inventories

Inventories consist of dyes and chemicals. Most of the dyes are purchased after the receipt of color requirement from the customers. Therefore, inventories are estimated as 15 days of raw material consumption.

14.5.2 Stores and Spares

These consist of plant & machinery spares and furnace oil. Machinery spares are estimated 5% of plant & machinery cost, whereas furnace oil is estimated as 7 days of furnace oil consumed.

14.5.3 Accounts receivables

Most of the processing units work on credit basis. Normal credit allowed to customers ranges from 40 to 60 days. We have assumed 50 days of gross sales as accounts receivables.

⁴ Normal Depreciation / 300 days * 300 days

14.5.4 Accounts Payable

There is very limited credit available for the fabric processing units for the purchase of dyes and chemicals and most of the trade is done on cash basis. However, limited period of credit is available depending upon the reputation of the unit. Therefore 15 days of raw material purchases has been considered as accounts payable.

14.5.5 Utilities Payable

Normally, utilities are billed covering a period of one month, therefore one month's expense are estimated for calculating utilities payable.

14.5.6 Salaries & Wages Payable

Salaries and wages are paid after the close of relevant month. Hence, one month salaries of production and administrative staff are taken in estimating salaries and wages payable.

14.5.7 Sales Tax Payable

As the sales tax return is filed on monthly basis after taking into account output and input tax, therefore sales tax payable/(refundable) at the close of a month is considered while calculating working capital.

15 FINANCIAL PROJECTIONS

15.1 Projected Balance Sheet

YEAR	Start up	1	2	3	4	5	6	7	8	9	10
FIXED ASSETS											
At Cost less Depreciation	57,428,728	52,694,935	48,410,406	44,528,151	41,006,639	37,809,079	34,902,811	32,258,791	29,851,144	27,656,775	25,655,048
Preliminary Expenses	350,000	280,000	210,000	140,000	70,000	-	-	-	-	-	-
CURRENT ASSETS											
Inventories		1,130,880	2,174,040	2,391,444	2,630,588	2,893,647	3,183,012	3,501,313	3,851,444	4,236,589	4,660,248
Stores & Spares		1,853,171	2,038,488	2,242,337	2,466,571	2,713,228	2,984,551	3,283,006	3,611,307	3,972,437	4,369,681
Accounts Receivables	-	18,747,300	20,540,520	25,881,055	29,201,322	30,661,388	32,194,458	33,804,181	35,494,390	37,269,109	39,132,565
Cash & Bank Balances	3,372,102	24,923,501	43,975,661	70,877,188	104,599,366	137,431,552	173,559,569	212,545,214	251,647,278	290,641,530	329,268,810
	3,372,102	46,654,852	68,728,709	101,392,025	138,897,847	173,699,815	211,921,589	253,133,714	294,604,419	336,119,665	377,431,303
TOTAL ASSETS	61,150,830	99,629,787	117,349,115	146,060,176	179,974,487	211,508,894	246,824,400	285,392,505	324,455,563	363,776,441	403,086,351
CAPITAL AND LIABILITIES											
SHARE CAPITAL											
3,669,050 Shares @ Rs.10/- each	36,690,498	36,690,498	36,690,498	36,690,498	36,690,498	36,690,498	36,690,498	36,690,498	36,690,498	36,690,498	36,690,498
UNAPP. PROFIT/(LOSS)	-	37,728,517	59,141,883	92,048,530	130,279,914	166,271,196	203,560,595	241,616,244	280,122,845	318,839,226	357,492,175
	36,690,498	74,419,015	95,832,381	128,739,028	166,970,412	202,961,694	240,251,093	278,306,743	316,813,343	355,529,724	394,182,673
LONG TERM LIABILITIES											
Finance Lease	-	-	-	-	-	-	-	-	-	-	-
Long Term Loan	24,460,332	22,014,299	17,122,232	12,230,166	7,338,100	2,446,033	-	-	-	-	-
	24,460,332	22,014,299	17,122,232	12,230,166	7,338,100	2,446,033	-	-	-	-	-
CURRENT LIABILITIES											
Creditors	-	1,178,000	2,217,505	2,400,503	2,640,553	2,904,608	3,195,069	3,514,576	3,866,033	4,252,637	4,677,900
Utility Bills Payable	-	339,505	373,456	410,801	451,881	497,070	546,777	601,454	661,600	727,760	800,536
Salaries & Wages	-	642,700	706,970	777,667	855,434	940,977	1,035,075	1,138,582	1,252,440	1,377,685	1,515,453
Sales Tax Payable	-	1,036,268	1,096,571	1,502,011	1,718,107	1,758,512	1,796,387	1,831,150	1,862,147	1,888,636	1,909,789
	-	3,196,474	4,394,501	5,090,982	5,665,975	6,101,166	6,573,307	7,085,762	7,642,220	8,246,717	8,903,678
TOTAL LIABILITIES	61,150,830	99,629,787	117,349,115	146,060,176	179,974,487	211,508,894	246,824,400	285,392,505	324,455,563	363,776,441	403,086,351

15.2 Projected Income Statement

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Gross Sales	134,980,560	170,075,506	214,295,137	241,786,947	253,876,295	266,570,110	279,898,615	293,893,546	308,588,223	324,017,634
Less: Sales Tax	17,606,160	22,183,762	27,951,540	31,537,428	33,114,299	34,770,014	36,508,515	38,333,941	40,250,638	42,263,170
Net Sales	117,374,400	147,891,744	186,343,597	210,249,519	220,761,995	231,800,095	243,390,100	255,559,605	268,337,585	281,754,464
Cost of Sales	62,468,975	84,545,568	97,701,132	107,990,097	115,721,928	124,163,129	133,373,081	143,417,333	154,368,153	166,305,129
Gross Profit	54,905,425	63,346,176	88,642,466	102,259,423	105,040,067	107,636,967	110,017,019	112,142,272	113,969,432	115,449,335
Operating Expenses:										
Operating Expenses	5,249,590	5,700,527	6,210,495	6,782,697	7,421,186	8,130,848	8,917,398	9,787,399	10,748,287	11,808,419
Selling & Distribution	2,973,744	3,458,917	3,804,809	4,185,290	4,603,819	5,064,201	5,570,621	6,127,683	6,740,452	7,414,497
	8,223,334	9,159,444	10,015,304	10,967,987	12,025,005	13,195,049	14,488,019	15,915,082	17,488,738	19,222,916
Operating Profit	46,682,091	54,186,731	78,627,162	91,291,436	93,015,063	94,441,918	95,529,000	96,227,190	96,480,694	96,226,420
Financial Charges	1,956,827	3,326,605	2,543,875	1,761,144	978,413	195,683	-	-	-	-
Amortization of Preliminary Exp.	70,000	70,000	70,000	70,000	70,000	-	-	-	-	-
	2,026,827	3,396,605	2,613,875	1,831,144	1,048,413	195,683	-	-	-	-
	44,655,264	50,790,126	76,013,287	89,460,292	91,966,649	94,246,235	95,529,000	96,227,190	96,480,694	96,226,420
W.P.P.F @ 5%	2,232,763	2,539,506	3,800,664	4,473,015	4,598,332	4,712,312	4,776,450	4,811,359	4,824,035	4,811,321
Profit before tax	42,422,501	48,250,620	72,212,623	84,987,277	87,368,317	89,533,924	90,752,550	91,415,830	91,656,660	91,415,099
Taxation (See working)	4,693,984	23,168,204	33,802,401	39,417,794	40,369,886	41,237,375	41,689,751	41,902,080	41,933,129	41,755,000
Profit after Tax	37,728,517	25,082,415	38,410,222	45,569,484	46,998,431	48,296,548	49,062,799	49,513,750	49,723,531	49,660,098
Balance B/F	-	37,728,517	59,141,883	92,048,530	130,279,914	166,271,196	203,560,595	241,616,244	280,122,845	318,839,226
Retained Earnings	37,728,517	62,810,932	97,552,104	137,618,014	177,278,345	214,567,744	252,623,394	291,129,994	329,846,375	368,499,324
Dividend										
Cash	-	3,669,050	5,503,575	7,338,100	11,007,149	11,007,149	11,007,149	11,007,149	11,007,149	11,007,149
Bonus	-	-	-	-	-	-	-	-	-	-
	-	3,669,050	5,503,575	7,338,100	11,007,149	11,007,149	11,007,149	11,007,149	11,007,149	11,007,149
Balance C/F	37,728,517	59,141,883	92,048,530	130,279,914	166,271,196	203,560,595	241,616,244	280,122,845	318,839,226	357,492,175

15.3 Projected Cash Flow Statement

YEAR	1	2	3	4	5	6	7	8	9	10
SOURCES										
FROM OPERATION										
Profit After Tax	37,728,517	25,082,415	38,410,222	45,569,484	46,998,431	48,296,548	49,062,799	49,513,750	49,723,531	49,660,098
Add: Depreciation	4,733,793	4,284,530	3,882,254	3,521,512	3,197,561	2,906,268	2,644,019	2,407,648	2,194,368	2,001,728
Amortization	70,000	70,000	70,000	70,000	70,000	-	-	-	-	-
	<u>4,803,793</u>	<u>4,354,530</u>	<u>3,952,254</u>	<u>3,591,512</u>	<u>3,267,561</u>	<u>2,906,268</u>	<u>2,644,019</u>	<u>2,407,648</u>	<u>2,194,368</u>	<u>2,001,728</u>
	42,532,310	29,436,945	42,362,476	49,160,996	50,265,992	51,202,816	51,706,819	51,921,397	51,917,899	51,661,826
OTHER SOURCES										
Sponsor's Loan	-	-	-	-	-	-	-	-	-	-
	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
	42,532,310	29,436,945	42,362,476	49,160,996	50,265,992	51,202,816	51,706,819	51,921,397	51,917,899	51,661,826
APPLICATION										
Capital Expenditure	-	-	-	-	-	-	-	-	-	-
Repayments of Loan	2,446,033	4,892,066	4,892,066	4,892,066	4,892,066	2,446,033	-	-	-	-
Payment of Accrued Interest	-	-	-	-	-	-	-	-	-	-
Tax Payment	-	-	-	-	-	-	-	-	-	-
Dividend Paid	-	-	-	-	-	-	-	-	-	-
- Cash	-	3,669,050	5,503,575	7,338,100	11,007,149	11,007,149	11,007,149	11,007,149	11,007,149	11,007,149
	<u>2,446,033</u>	<u>8,561,116</u>	<u>10,395,641</u>	<u>12,230,166</u>	<u>15,899,216</u>	<u>13,453,183</u>	<u>11,007,149</u>	<u>11,007,149</u>	<u>11,007,149</u>	<u>11,007,149</u>
SURPLUS / (DEFICIT)	40,086,276	20,875,829	31,966,835	36,930,830	34,366,776	37,749,634	40,699,669	40,914,248	40,910,749	40,654,677
INCREASE/(DECREASE) IN WORKING CAPITAL	18,534,878	1,823,669	5,065,307	3,208,652	1,534,591	1,621,617	1,714,024	1,812,184	1,916,497	2,027,397
NET INCREASE/(DECREASE)	21,551,399	19,052,160	26,901,528	33,722,177	32,832,186	36,128,017	38,985,646	39,102,064	38,994,252	38,627,279
OPENING BANK BALANCES	3,372,102	24,923,501	43,975,661	70,877,188	104,599,366	137,431,552	173,559,569	212,545,214	251,647,278	290,641,530
CLOSING CASH BALANCE	24,923,501	43,975,661	70,877,188	104,599,366	137,431,552	173,559,569	212,545,214	251,647,278	290,641,530	329,268,810
WORKING CAPITAL										
	18,534,878	20,358,547	25,423,854	28,632,507	30,167,097	31,788,714	33,502,737	35,314,921	37,231,418	39,258,815
Increase/ (Decrease)	18,534,878	1,823,669	5,065,307	3,208,652	1,534,591	1,621,617	1,714,024	1,812,184	1,916,497	2,027,397

16 KEY ASSUMPTIONS

Table 16-1 :Other Costs

Description	Cost in Rs.
Total Packing Cost per K.G. of Fabric Processed (includes poly bag and packing tape)	13.80
Rate of Gas per KG	5.00

Table 16-2 Selling & Distribution

Selling & Distribution	Per Annum
Salaries and staff benefits for Marketing Deptt	1,200,000
Advertisement & Printing Material	600,000
Agents Commission percentage of Net sales	1.00%
Annual Increase	10%

Annual Increase in Processing Rate per K. G.

10%

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>	<u>Year 7</u>	<u>Year 8</u>	<u>Year 9</u>	<u>Year 10</u>
Capacity Utilization	62%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Avg Processing Charges/K.G.	Rs. 80.95	Rs. 89.05	Rs. 97.95	Rs. 107.74	Rs. 118.52	Rs. 130.37	Rs. 143.41	Rs. 157.75	Rs. 173.52	Rs. 190.88
fabric Processed in K.G. per annum	710,400	1,036,800	1,036,800	1,036,800	1,036,800	1,036,800	1,036,800	1,036,800	1,036,800	1,036,800
Total Net Revenue	57,506,880	92,321,856	101,554,042	111,709,446	122,880,390	135,168,429	148,685,272	163,553,800	179,909,179	197,900,097
Sales Tax @ 15%	8,626,032	13,848,278	15,233,106	16,756,417	18,432,059	20,275,264	22,302,791	24,533,070	26,986,377	29,685,015
Gross Sales	66,132,912	106,170,134	116,787,148	128,465,863	141,312,449	155,443,694	170,988,063	188,086,869	206,895,556	227,585,112