



Pre-feasibility Study

PROTECTIVE COVERALL AND MEDICAL MASKS MANUFACTURING UNIT

October 2020

“The figures and financial projections are approximate due to fluctuations in exchange rates, energy costs, and fuel prices etc. Users are advised to focus on understanding essential elements such as production processes and capacities, space, machinery, human resources, and raw material etc. requirements. Project investment, operating costs, and revenues can change daily. For accurate financial calculations, utilize financial calculators on SMEDA’s website and consult financial experts to stay current with market conditions.”

Small and Medium Enterprises Development Authority
Ministry of Industries and Production
Government of Pakistan

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1 DISCLAIMER

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2 EXECUTIVE SUMMARY

The Asian countries have largest contribution in the production of health sector products, includes India with 20%¹ share in global medicine and vaccine market, Korea and Singapore have leading pharmaceutical firms. China is the largest producing country of Coverall and Medical masks etc. Moreover, Taiwan captures the 20% market of mask supply globally. The European countries are huge market for PPEs and mask products. It provides investment for Asian countries like Pakistan, Malaysia, and Thailand etc.

The estimated value of international market of Personal Protective equipment in 2018 was 2.5 billion dollars and net exports of 47.5 billion dollars² were made consisting of gloves, masks and Coverall or gowns. Whereas, according to UNICEF in the last quarter of 2020 estimated demand for surgical mask will reach 2.2billion masks and 1.1 billion gloves. The largest revenues were made by gloves, which account 25% and Coverall suits stood at 22%, both made in China, Malaysia, Thailand, Vietnam and Belgium, finally 14% sales made of face masks and head covers supplied by China, Germany, United States, Vietnam and Mexico. The US has the leading market share of 33% in PPEs of health sector while on second Asia has 28% and thirdly Europe has 22%³ share for simultaneously highest demand for PPEs and health sector products.

The Protective Coverall and Medical Mask Manufacturing Unit is proposed to be located in major cities of country to easily market the product both domestically and internationally. This unit has capacity to produce the protective coverall kit which consist of head cover, over all cover or gown, shoe cover and masks. Initially, the unit will run on 50% capacity to cater the needs of market.

The total estimated cost is **Rs.11,833,130** including fixed cost of **Rs.7,897,130** and working capital of **Rs.3,936,000**. At given cost assumptions, the project shows **45.88% IRR** and payback of **2.08 years**.

¹ World Health Organization

² UNICEF

³ World Health Organization

3 INTRODUCTION TO SMEDA

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with an objective to provide fresh impetus to the economy through development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through development of the SME sector, by helping increase the number, scale and competitiveness of SMEs", SMEDA has carried out 'sectorial research' to identify policy, access to finance, business development services, strategic initiatives and institutional collaboration and networking initiatives.

Preparation and dissemination of prefeasibility studies in key areas of investment has been a successful hallmark of SME facilitation by SMEDA.

Concurrent to the prefeasibility studies, a broad spectrum of business development services is also offered to the SMEs by SMEDA. These services include identification of experts and consultants and delivery of need based capacity building programs of different types in addition to business guidance through help desk services.

4 BRIEF DESCRIPTION OF PROJECT & PRODUCT

The Protective Coverall is a type of covering that protects the health workers at one end and restrict the spread of deadly viruses and infectious diseases. Coverall consists of different items such as surgical masks, three fold masks, gowns or suits, shoe covers and head covers. The raw material is outsourced from both domestic and international market. Some essential items including cotton fiber, polyester and polyamide are imported from foreign countries.

The Protective Coverall and Medical masks are specifically used by health workers such as workers at OPDs, emergencies, ambulances and surgical operations theaters etc. Presently, COVID-19, declared pandemic by WHO, has created a huge demand for Personal Protective Equipment and many countries are facing shortage as well. Owing to opportunities at domestic and global level, the textile stitching units are being converted into Coverall and masks manufacturing units to meet the market demand.

The use of Protective coverall and masks has been recommended by various health experts to prevent the spread of disease. The health workers, with frequent interactions with patients, are highly recommended to abide by this Standard Operating Procedures (SOPs). The regular use of protective coverall and masks is effective to control the virus as per the SOPs of WHO. For effective use, Protective Coverall should be used once only.

Therefore, Coverall and masks are designed to be used for one time use. In this regards, the WHO has recommended following guidelines for the use of PPEs.

Guidelines of WHO for use of PPEs in COVID-19 Epidemic			
Stakeholders	Target Customers	Activity	Type of PPE Required
Health Care Facilities			
General Ward, ICU, Operation Theatre, Emergency Services, Ambulance Services, Patient Room	Health Care Workers	Direct care to Patients	Medical Mask Coverall/Gown Gloves Eye Protection Head cover
		Test sampling	Respiratory N95 or FFP2 Standard, Coverall/Gown Gloves Eye Protection Apron Shoe cover Head cover
	Cleaners/ Sanitary Workers	Routine Cleanness	Medical Mask Coverall/Gown Heavy Duty Gloves Eye Protection Head cover Shoe Cover or Special Shoes
	Visitors	Entering the Patient Room, suspected Area	Medical Mask Coverall/Gown Gloves
		Entering the Hospital Area	Medical Mask Gloves
Laboratory	Lab Technician	Manipulation of Respiratory samples	Medical Mask Coverall/Gown Gloves Eye Protection Head cover
Administrative Areas	All staff including Health workers	Except direct involve with patients	No PPE Required

According to the discussions with health sector experts, there are three important points before selecting the suitable Coverall and Medical Masks as given below.

1. Type of anticipated exposure

According to this criteria, it is assumed that it may be used in different activities in operation theatres, emergency departments or surgery related operations where workers may be exposed to risk of touch, sprays, blood or body fluid that may infect the others. Coverall should be selected by keeping in view the condition of patients and nature of disease they are suffering from.

2. Durability and appropriateness

It is again associated to the type of exposure that the user of Coverall and Medical Masks has been exposed with, such as gown or suit cover is fluid proof or fluid resisting or defensive against the infectious viruses. Similarly, Coverall and Medical Masks protect the clothing of health workers or patients to resist the spread the infections.

3. Size or Fitting

It is mandatory to make the size and fitness of suits or Coverall accordingly to make fit to wear in order to protect from airborne disease and avoid the strains of blood or fluid to affect the parts of user or inner clothing. Mostly the small, medium, large and extra size are made to make the Coverall and Medical Masks suitable for users.

The important and effective information and instructions of Coverall and Medical Masks against contagious diseases are given below.

Following are the key parameters of this pre-feasibility study:

- **Technology:**

The Coverall and Medical Masks manufacturing unit is similar to garments stitching unit in terms of technology used. It provides an opportunity to garments unit to transform industry with minimum intervention and investment. Following is the list of key machinery used in the manufacturing unit.

- Single Needle Machine
- Double Needle Machine
- Thread Lock Machine
- Single Folder Machine
- Double folder Machine
- Three Folder Machine
- Cutting Machine
- Pressing
- Metal Detector

The mask production is also made through single process set of machines that includes ultrasonic machine and embossing machine. These machines get the non-woven fabric as input and convert it into three layers mask and then each mask is embossed with flexible rope or ear hold to easily wear the mask.

2.2 Product:

The manufacturing unit will be producing Coverall and Medical Masks Kit that consists of surgical mask or three fold Mask, shoe cover, head cover, gown or overall cover to meet the high demand of consumers. The detail product information of Coverall and Medical Masks items are given below.

Medical Mask

- Three layered medical mask of non-woven material having filter efficiency of 99% for 3 micron particle size.
- Small, Medium, Large are size of Masks.

Shoe Covers

- Made up of the same fabric.
- Should cover the entire shoe and reach above ankles.

Head Cover

- Impermeable to blood and body fluids
- Single use
- Avoid culturally unacceptable colors e.g. white, blue sky.
- Light colors are preferable to better detect possible contamination.

Gown and head cover or Coverall

- Thumb/finger loops to anchor sleeves in place.
- Head covers should be made of same material.
- If head cover is separately made than elastic rubber should be used for fit.

- **Raw Material:**

The availability of raw materials has major role in the production of Coverall and Medical Masks. The raw material includes non-woven fabric, parachute sheets, thread, metal foldable wire coated with fabric, flexible or elastic rubber, etc. while packing bags would be outsourced to keep focus on the key production.

There are two types of non-woven fabric/sheets used in the manufacturing unit:

- Nonwoven poly- propylene fabric
- Parachute

- **Location:**

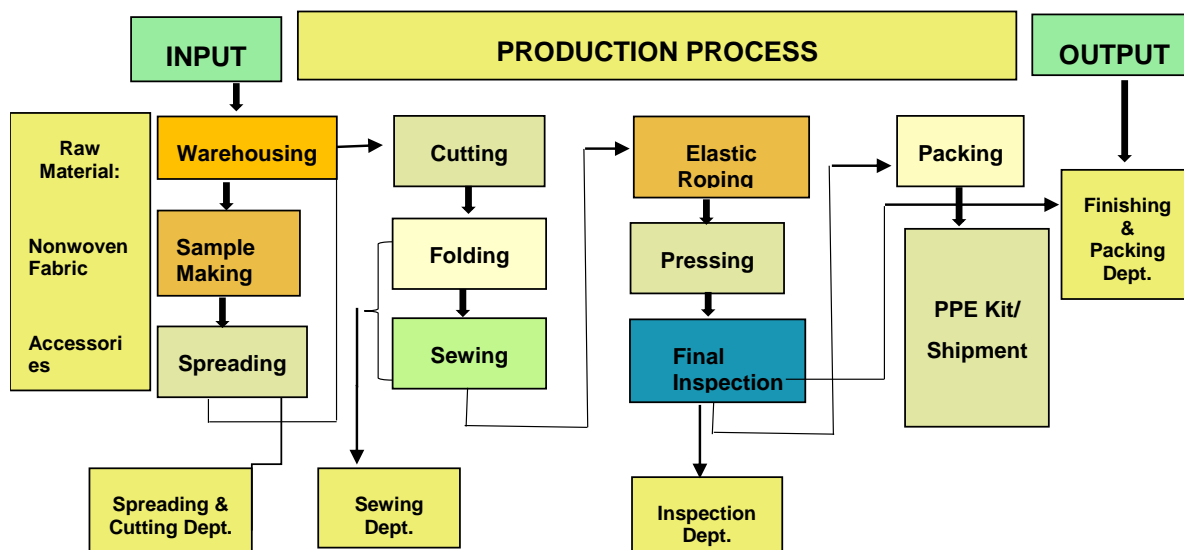
The manufacturing unit is proposed to be located in textile garments clusters in Karachi, Lahore and Faisalabad and in major industrial areas of country such as Korangi, SITE, North Karachi, industrial areas in Karachi. It is also important to consider availability of the industrial utility connections and access to raw material and labour availability.

- **Employment Generation:**

The Coverall and Medical Masks manufacturing unit is similar to garment units where labour force is intensively used and simultaneously machine operators are trained with on job training and experience. This unit will provide direct employment to 25 persons. According to financial analysis it is assumed that unit will become profitable from the first year of operation.

4.1 Production Process Flow

Process flow chart of Coverall and Medical Masks Manufacturing unit:



The production process flow of the manufacturing unit mainly depends on skilled labor and quality of non-woven fabric used. In this process, initially raw material is obtained for sample making and after approval the bulk raw material is stocked. The approved samples of products are used as per the standards specified for production. The fabric is further processed through different stages such as spreading, cutting, fold making, sewing, elastic roping pressing, inspecting and packing etc. The quality of production can be maintained through efficient quality control through machine operators, supervisors and manager's contribution at each stage of job assigned. The main focus of production is on demand basis that may vary with market response.

Coverall consists of head cover, gown, shoe cover or it is made according to the specifications and demand of customers. These products are produced according to standard sizes as per buyer's specification.

The size of manufacturing unit depends on number of machines used in production. Small units have 1-20 no of machines while medium size units have 21-250 number of machines. The units having more than 250 machines are considered as large units. The raw material of Coverall Kit is locally available and also imported from China and other countries.

4.2 Installed and Operational Capacities

The Coverall and masks manufacturing unit will produce 86,400 units with initial capacity utilization of 50% with assumed sales growth of 7%. The operations of unit will run over 300 days with 8 hours minimum shift time utilizing 12 stitching machines and one composite mask producing machine. The each stitching machine has the capacity of producing 6 to 7 Coverall kits per hour.

5 CRITICAL FACTORS

The main critical success factors that affect the decision to invest in the proposed business setup are:

- ✓ The availability of raw material is key to success of start up to capture the market and expand the business.
- ✓ This availability of skilled is important for stitching and other activities.
- ✓ The availability of electricity is important for running unit.
- ✓ The surge in demand may affect the price stability of both raw material and product and effective price strategy will meet the economic profits for business.
- ✓ The location of manufacturing unit should be set according to both labor availability and market access in order to run the business on cost effective model.
- ✓ In terms of financial requirements the working capital requirements must not be effected with delay in refund or receipts which might generate financial burden for business.

6 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

Pakistan has industrial units in all major cities of country where the manufacturing unit can be installed. These industrial zones have sufficient labor availability while raw material is easily available through local market and imported from China. The machines used in this business are mostly imported from China, Japan and other countries. Government has flexible policies for this sector due to export oriented nature of product.

The unit can be set up in any economic zone or industrial or commercial area of the country. The major cities with industrial zones are Karachi, Lahore, Peshawar, Quetta, Rawalpindi, Multan, Hyderabad and all other cities of Pakistan. Therefore, Coverall and Medical Mask manufacturing unit can be set in all above cities of the country because of easy access to labor and raw material.

7 POTENTIAL TARGET CUSTOMERS / MARKETS

The Coverall and mask unit includes the protective gowns, head cover and face protection mask that protect the user from infection. For this objective, Coverall and mask are primarily used by health workers including doctors, nurses, sanitary workers,

front desk staff in hospital, ambulance and emergency workers, administrative staff in hospital, Isolation and operation theatre staff, and secondly used by infected patients or patients with symptoms of infectious disease to stop them from spread. Therefore, health workers, patients and general public are the targeted customers and it has continuous demand as health sector has most vibrant market of its machineries, and equipment's throughout the year and from every corner of the world. In Asian countries, China with world leading export numbers, Malaysia, Thailand, Vietnam, Indonesia are producing for local and export markets while Pakistan has been importing from China which may provide the opportunity to invest in the sector and earn foreign exchange.

8 PROJECT COST SUMMARY

8.1 Project Economics

The financial model of this project has been made on the basis of different assumptions and costs to be incurred for producing the estimated revenue of **Rs. 52, 631,424** in the year one. The project has capacity utilization during year one is worked out at 50% with 4% increase in subsequent years up to the maximum capacity utilization. The following table shows internal rate of return, payback period and net present value of the proposed venture:

Table 8.1: Project Economics

Description	Details
Internal Rate of Return (IRR)	45.88%
Payback Period (yrs.)	2.08
Net Present Value (Rs.)	25,108,740

8.2 Project Financing

Following table provides details of the equity required to estimate the initial investment and worth of project.

Table 8.2: Project Financing

Description	Details
Total Equity (100%)	Rs.11,833,130

8.3 Project Cost

Following fixed and working capital requirements have been identified for operations of the proposed business:

Table 8.3: Project Cost

Description	Amount Rs.
Capital Cost	
Plant and Machinery	3,987,080
Furniture & Fixture	1,045,050
Office Equipment	265,000
Renovation Cost	400,000
Office Vehicles	1,200,000
Pre-operating Cost	1,000,000
Total Capital Cost	7,897,130
Working Capital	
Raw Material Inventory	2,736,000
Cash	1,200,000
Total Working Capital	3,936,000
Total Project Cost	11,833,130

8.4 Space Requirement

The space requirement for the proposed manufacturing unit is estimated considering various facilities including management office, production hall, storage, open space, etc. Details of space requirement and cost related to land & building are given below:

Table 8.4: Space Requirement

Description	Estimated Area (Sq.ft)	Unit (Rs.)	Cost	Total Cost (Rs.)
Management Office	300	110		33,000
Production Hall	1240	110		136,400
Store – Finished Goods	200	110		22,000
Store – Raw Material	200	110		22,000
Open Space	100	110		11,000

Boundary Wall	100	110	11,000
Total	2,140		235,400

8.5 Machinery & Equipment Requirement

Plant, machinery and equipment for the proposed project are stated below:

Table 8.5: Machinery & Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Single Needle Machines	12	146,840	1,762,080
Mask Composite Layer Machine	1	1,400,000	1,400,000
Four Thread Overlock Machine	2	285,000	570,000
Cutter	3	40,000	120,000
Press	2	15,000	30,000
Metal Detector	3	35,000	105,000
Total			3,987,080

8.6 Furniture & Fixtures Requirement

Details of the furniture and fixture required for the project are given below:

Table 8.6: Furniture & Fixture

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Tables	15	21,000	315,000
Chairs	30	12,335	370,050
Floor Trollies	6	10,000	60,000
Sofa Set	1	40,000	40,000
Air Conditioner	1	90,000	90,000

Electrical Fans	15	6,000	90,000
Lights	50	500	25,000
Microwave oven	1	20,000	20,000
Electrical Water Cooler	1	35,000	35,000
Total			1,045,050

8.7 Office Equipment Requirement

Following office equipment will be required for the Protective Coverall and Medical Mask Manufacturing Unit.

Table 8.7: Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Laptop	1	90,000	90,000
Desktop Computers with UPS	1	70,000	70,000
Printer	2	15,000	30,000
Telephone Sets	3	5,000	15,000
Fire Extinguisher	4	15,000	60,000
Total			265,000

8.8 Office Vehicle Requirement

Following office vehicle will be required for official use.

Table 8.8: Office Vehicle

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Van	1	1,200,000	1,200,000
Total			1,200,000

8.9 Human Resource Requirement

In order to run operations of the Manufacturing Unit smoothly, details of human resources required along with number of employees and monthly salary are recommended as under:

Table 8.9: Human Resource Requirement

Description	No. of Employees	Monthly Salary per person (Rs)	Monthly Salary (Rs)
Stitching Machine Operators	12	30,000	360,000
Cutting Master	1	40,000	40,000
Inspector/Supervisor	2	35,000	70,000
Packing Assistant/Helpers	2	25,000	50,000
Mask Composite Machine Operator	1	40,000	40,000
Mask Composite Machine Assistant	1	30,000	30,000
Pressmen	2	25,000	50,000
Total	21		640,000

8.10 Utilities and other costs

An essential cost to be borne by the Manufacturing Unit is the cost of electricity. The electricity expenses are estimated to be around **Rs.129,600** per month. Furthermore, promotional expense being essential for marketing the Manufacturing Unit are estimated as 5% of administrative / Cost of Sales expenses.

8.11 Revenue Generation

Based on the capacity utilization of 50%, sales revenue during the first year of operations is estimated as under:

Table 8.11: Revenue Generation – Year 1

Description	No. of Units Produced (No.)	Finished Goods Inventory (No.)	Units available for Sale (No.)	Sale Price / unit (Rs.)	Sales Revenue (Rs.)
Product-1	86,400	86,400	86,400	609	52,631,424
Total					52,631,424

9 CONTACT DETAILS

In order to facilitate potential investors, contact details of private sector Service Providers relevant to the proposed project are given below:

9.1 Machinery Suppliers

Machinery Supplier -1

Name of Supplier /Organization	Al-Murtaza Machinery Co.		
Address	Shaheen View, A-18, Block-6, PECHS, Sharae Faisal, Karachi		
Phone	021-34543060	Fax	021-34546555
E-mail	info@almurtaza.com		
Website	www.almurtaza.com		

Machinery Supplier -2

Name of Supplier /Organization	United Machineries Co.		
Address	S-3, Ground Floor , West Land Trade Centre , Block 7/8 K.C.H.S.U , Shaheed-e-Millat Road, Karachi.		
Phone	02134392781	Fax	021-34382384
E-mail	lhr@unitedmachinry.com.pk		
Website	unitedmachineries.pk		

10 USEFUL WEB LINKS

Small & Medium Enterprises Development Authority (SMEDA)	www.smeda.org.pk
Government of Pakistan	www.pakistan.gov.pk
Ministry of Industries & Production	www.moip.gov.pk
Government of Punjab	www.punjab.gov.pk
Government of Sindh	www.sindh.gov.pk
Government of Khyber Pakhtunkhwa	www.khyberpakhtunkhwa.gov.pk
Government of Balochistan	www.balochistan.gov.pk
Government of Gilgit Baltistan	www.gilgitbaltistan.gov.pk
Government of Azad Jamu Kashmir	www.ajk.gov.pk
Trade Development Authority of Pakistan (TDAP)	www.tdap.gov.pk
Security Commission of Pakistan (SECP)	www.secp.gov.pk
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	www.fpcci.com.pk
State Bank of Pakistan (SBP)	www.sbp.org.pk
Sindh Small Industries Corporation	www.ssic.gos.pk
Technical Education and Vocational Training Authority (TEVTA)	www.tevta.org
Pakistan Readymade Garment Technical Training Institute	www.prgmea.org/prgtti/

11 ANNEXURES

11.1 Income Statement

PROTECTIVE COVERALL AND MEDICAL MASKS MANUFACTURING UNIT

PROJECTED INCOME STATEMENT

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Sale Value	52,631,424	59,131,405	66,149,805	73,722,217	81,886,496	90,682,897	100,154,221	110,345,971	121,306,511	133,087,239
Costs										
Total Material	32,832,000	37,238,054	41,937,627	46,935,112	52,235,239	57,843,092	63,764,138	70,004,257	76,569,767	83,467,457
Labour	7,680,000	8,710,656	9,805,824	10,965,504	12,189,696	13,478,400	14,831,616	16,249,344	17,731,584	19,278,336
Rent	2,824,800	3,107,280	3,418,008	3,759,809	4,135,790	4,549,369	5,004,306	5,504,736	6,055,210	6,660,731
Electricity	1,555,200	1,763,908	1,992,062	2,241,244	2,370,903	2,809,631	3,132,635	3,484,284	3,866,854	4,282,789
Total Variable Cost of Production	44,892,000	50,819,898	57,153,521	63,901,670	70,931,628	78,680,492	86,732,694	95,242,621	104,223,414	113,689,313
Fixed Overheads - Production										
Depreciation	438,708	438,708	438,708	438,708	438,708	438,708	438,708	438,708	438,708	438,708
Maintenance	60,000	63,600	67,416	71,461	75,749	80,294	85,111	90,218	95,631	101,369
	498,708	502,308	506,124	510,169	514,457	519,002	523,819	528,926	534,339	540,077
Total Production Cost	45,390,708	51,322,206	57,659,645	64,411,839	71,446,084	79,199,493	87,256,514	95,771,547	104,757,753	114,229,389
Contribution Margin	7,739,424	8,311,507	8,996,284	9,820,548	10,954,868	12,002,405	13,421,527	15,103,350	17,083,097	19,397,927
Gross Profit	7,240,716	7,809,199	8,490,160	9,310,379	10,440,411	11,483,404	12,897,708	14,574,425	16,548,758	18,857,850
Operating Overheads										
Payroll	2,160,000	2,289,600	2,426,976	2,572,595	2,726,950	2,756,768	2,922,174	3,097,505	3,283,355	3,480,356
Depreciation	251,005	251,005	251,005	251,005	251,005	251,005	251,005	251,005	251,005	251,005
Other operating costs	90,000	95,400	101,124	107,191	113,623	120,440	127,667	135,327	143,446	152,053
Legal and professional charges	100,000	106,000	112,360	119,102	126,248	133,823	141,852	150,363	159,385	168,948
Amortization of pre-operating expenses	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Total	2,701,005	2,842,005	2,991,465	3,149,893	3,317,826	3,362,036	3,542,698	3,734,199	3,937,191	4,152,362
Operating Profit	4,539,711	4,967,194	5,498,695	6,160,486	7,122,585	8,121,368	9,355,010	10,840,225	12,611,567	14,705,488
Financial Charges										
Profit Before Tax	4,539,711	4,967,194	5,498,695	6,160,486	7,122,585	8,121,368	9,355,010	10,840,225	12,611,567	14,705,488
Tax	781,913	910,158	1,069,609	1,276,170	1,612,905	1,962,479	2,394,253	2,914,079	3,534,048	4,266,921
Net Profit	4,539,711	4,057,036	4,429,087	4,884,316	5,509,681	6,158,889	6,960,756	7,926,146	9,077,518	10,438,567
Retained earnings at the beginning	-	4,539,711	8,596,747	13,025,833	17,910,149	23,419,830	29,578,719	36,539,475	44,465,621	53,543,140
Available for distribution	4,539,711	8,596,747	13,025,833	17,910,149	23,419,830	29,578,719	36,539,475	44,465,621	53,543,140	63,981,707
Retained earnings at the end	4,539,711	8,596,747	13,025,833	17,910,149	23,419,830	29,578,719	36,539,475	44,465,621	53,543,140	63,981,707

11.2 Balance Sheet

PROTECTIVE COVERALL AND MEDICAL MASK MANUFACTURING UNIT

PROJECTED BALANCE SHEET											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
CAPITAL AND RESERVES											
Issued, subscribed and paid up capital	11,833,130	11,833,130	11,833,130	11,833,130	11,833,130	11,833,130	11,833,130	11,833,130	11,833,130	11,833,130	11,833,130
Retained Earnings	-	4,539,711	8,596,747	13,025,833	17,910,149	23,419,830	29,578,719	36,539,475	44,465,621	53,543,140	63,981,707
	11,833,130	16,372,841	20,429,877	24,858,963	29,743,279	35,252,960	41,411,849	48,372,605	56,298,751	65,376,270	75,814,837
CURRENT LIABILITIES											
Creditors accrued and other liabilities	-	3,556,800	4,073,286	4,584,889	5,128,805	5,705,550	6,315,677	6,959,783	7,638,507	8,352,539	8,346,746
	11,833,130	19,929,641	24,503,162	29,443,852	34,872,084	40,958,509	47,727,526	55,332,388	63,937,259	73,728,809	84,161,583
FIXED CAPITAL EXPENDITURE											
Operating fixed assets - at cost	6,897,130	6,897,130	6,897,130	6,897,130	6,897,130	6,897,130	6,897,130	6,897,130	6,897,130	6,897,130	6,897,130
Accumulated depreciation	-	(689,713)	(1,379,426)	(2,069,139)	(2,758,852)	(3,448,565)	(4,138,278)	(4,827,991)	(5,517,704)	(6,207,417)	(6,897,130)
	6,897,130	6,207,417	5,517,704	4,827,991	4,138,278	3,448,565	2,758,852	2,069,139	1,379,426	689,713	-
Preoperating expenses	1,000,000	900,000	800,000	700,000	600,000	500,000	400,000	300,000	200,000	100,000	-
CURRENT ASSETS											
Raw Material Inventory	2,736,000	3,103,171	3,494,802	3,911,259	4,352,937	4,820,258	5,313,678	5,833,688	6,380,814	6,955,621	-
Trade debts	-	5,263,142	5,913,140	6,614,981	7,372,222	8,188,650	9,068,290	10,015,422	11,034,597	12,130,651	13,308,724
Cash and Banks balances	1,200,000	4,455,910	8,777,515	13,389,621	18,408,648	24,001,037	30,186,706	37,114,139	44,942,421	53,852,823	70,852,859
	3,936,000	12,822,224	18,185,458	23,915,861	30,133,806	37,009,944	44,568,674	52,963,249	62,357,833	72,939,096	84,161,583
	11,833,130	19,929,641	24,503,162	29,443,852	34,872,084	40,958,509	47,727,526	55,332,388	63,937,259	73,728,809	84,161,583

11.3 Cash Flow Statement

PROTECTIVE COVERALL AND MEDICAL MASKS MANUFACTURING UNIT											
PROJECTED CASH FLOW STATEMENT											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Profit after tax	-	4,539,711	4,057,036	4,429,087	4,884,316	5,509,681	6,158,889	6,960,756	7,926,146	9,077,518	10,438,567
Adjustment of non-cash changes and other items:											
Depreciation	-	689,713	689,713	689,713	689,713	689,713	689,713	689,713	689,713	689,713	689,713
Amortization of preoperating expenses	-	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Working Capital Changes											
(Increase)/decrease in trade debtors	-	(5,263,142)	(649,998)	(701,840)	(757,241)	(816,428)	(879,640)	(947,132)	(1,019,175)	(1,096,054)	(1,178,073)
(Increase)/decrease in stocks	(2,736,000)	(367,171)	(391,631)	(416,457)	(441,677)	(467,321)	(493,421)	(520,010)	(547,126)	(574,808)	6,955,621
Increase/(Decrease) in payables	-	3,556,800	516,486	511,603	543,916	576,745	610,127	644,106	678,724	714,032	(5,793)
	(2,736,000)	(2,073,514)	(525,143)	(606,694)	(655,002)	(707,004)	(762,933)	(823,037)	(887,576)	(956,830)	5,771,756
Net Cash Flow from operating activities	(2,736,000)	3,255,910	4,321,605	4,612,106	5,019,027	5,592,389	6,185,669	6,927,433	7,828,283	8,910,402	17,000,036
Pre-operating expenses	(1,000,000)	-	-	-	-	-	-	-	-	-	-
Fixed Capital expenditure	(6,897,130)	-	-	-	-	-	-	-	-	-	-
Net Cash Flow from investing activities	(7,897,130)	-	-	-	-	-	-	-	-	-	-
Capital issued	11,833,130	-	-	-	-	-	-	-	-	-	-
Receipt of long term Loan	-	-	-	-	-	-	-	-	-	-	-
Repayment of long term loan	-	-	-	-	-	-	-	-	-	-	-
Net Cash Flow from financing activities	11,833,130	-	-	-	-	-	-	-	-	-	-
Cash generated (injected) during the year	1,200,000	3,255,910	4,321,605	4,612,106	5,019,027	5,592,389	6,185,669	6,927,433	7,828,283	8,910,402	17,000,036
Opening balance of cash and cash equivalent	-	1,200,000	4,455,910	8,777,515	13,389,621	18,408,648	24,001,037	30,186,706	37,114,139	44,942,421	53,852,823
Closing balance of cash and cash equivalent	1,200,000	4,455,910	8,777,515	13,389,621	18,408,648	24,001,037	30,186,706	37,114,139	44,942,421	53,852,823	70,852,859

12 KEY ASSUMPTIONS

12.1 Operating Cost Assumptions

Description	Details
Electricity price growth rate	6%
Gas price growth rate	6%
Percentage Increase in Other Costs	6%

12.2 Production Cost Assumptions

Description	Details
Percentage Increase in Raw material cost	6%
Percentage Increase in Labour cost	6%

12.3 Revenue Assumptions

Description	Details
Sales Growth rate	7%
Selling Price Growth rate	5%

12.4 Financial Assumptions

Description	Details
Labour Inflation Rate	6%

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