



**Pre-feasibility Study**

# **FLOOR CLEANER MANUFACTURING**

**February 2021**

*“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

The objective of this information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data/information gathered from various reliable sources; however, it is based upon certain assumptions, which may differ from case to case. The information has been provided on as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although due care and diligence have been taken to compile this document, the contained information may vary due to any change in any of the concerned factors as future is uncertain, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice to be obtained by the user. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision, including taking professional advice from a qualified consultant/technical expert before making any decision to act upon the information.

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### ***Document Control***

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## 2 EXECUTIVE SUMMARY

Floor cleaner is used to remove all the dirt, dust, stains from the floor to keep it fresh and clean. Floor cleanliness is important in our homes, schools, hospitals, hotels and offices, etc. There is a constant demand for cleaning products. The global market for floor cleaners has witnessed growth at a steady pace in the past few years due to factors such as the adoption of healthier lifestyles and the increasing concern for infectious diseases.

This particular pre-feasibility study is for setting up a floor cleaner manufacturing unit. The focus of the business would be to provide quality floor cleaner in three different sized (i.e. 250 ml., 500 ml., 1000 ml.) bottles. The produced floor cleaner is proposed to be sold to wholesalers and retailers in major cities of Pakistan.

The proposed unit has capacity to produce 2.7 million bottles of floor cleaner in a year based on 300 working days with 08 hours operational per day. However, starting operational capacity is assumed at 55% (i.e. 1.485 million bottles) and with an annual increase of 5%, a maximum capacity of 90% will be attained in year 8. This production capacity is estimated to be economically viable and justifies the capital as well as operational cost of the project. However, the entrepreneur's knowledge of the industry, competitive pricing, and strong linkage with suppliers and wholesalers' network are key factors for the success of this business.

The total cost of the proposed 'Floor Cleaner Manufacturing Unit' is estimated at Rs. 25.09 million out of which Rs. 18.48 million is the capital cost and Rs. 6.61 million is for working capital. The project is to be financed through 100% equity. The project NPV is around Rs. 107.33 million, with an IRR of 40% and a Payback Period of 3.58 years. The project will provide employment opportunities to 27 individuals including the owner. The legal business status of this project is proposed as 'Sole Proprietorship'.

## 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 the development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through the development of the SME sector, by helping increase the number, scale and competitiveness of SMEs", SMEDA has carried out 'sectoral 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 have 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 PURPOSE OF THE DOCUMENT**

The objective of the pre-feasibility study is primarily to facilitate potential entrepreneurs in project identification for investment. The project pre-feasibility may form the basis of an important investment decision and in order to serve this objective, the document/study covers various aspects of project concept development, start-up, production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in **Floor Cleaner Manufacturing** business, by providing them with a general understanding of the business with the intention of supporting potential investors in crucial investment decisions.

The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attains greater imminence as the research that precedes such reports reveal certain thumb rules; best practices developed by existing enterprises by trial and error, and certain industrial norms that become a guiding source regarding various aspects of business set-up and its successful management.

Apart from carefully studying the whole document one must consider critical aspects provided later on, which form the basis of an informed Investment Decision.

#### **5 BRIEF DESCRIPTION OF PROJECT AND PRODUCT**

Floor cleaner is a liquid detergent made up of water and various chemicals. The manufacturing process of floor cleaner is not very complicated however formulation and production methods are important. It is to be made from liquid ingredients which include 85.00% Water, 1.50% Caustic Soda (99%) Flake, 5.00% LAS acid (90%), 5.00% SLES, 0.10% EDTA (optional) and 0.10% Formalin. This particular pre-feasibility study is based on fully automatic mixing machine that has a capacity to mix 5,000 litres of liquids per day. According to the proposed business model unit will supply standard floor cleaner bottled in different sizes to wholesalers and retailers (i.e. 250 ml., 500 ml., 1000 ml.).

The proposed unit will procure chemicals from the local market to produce the cleaner. About 2.5% of the total production is considered as wastage and is common in the floor cleaner manufacturing process. The unit will have in-house bottle filling, capping and labelling facility. The legal business status of this project is assumed to be 'Sole Proprietorship'.

**5.1 Production Process Flow:**

The production process flow of floor cleaner manufacturing unit starts with the purchasing of chemicals from the market. The liquid ingredients are then mixed according to the standard formulation. After mixing, the mixture is left for 6 to 8 hours for settling. Foaming agent, 3.29% fragrance and 0.01% colour is added into the liquid at the final stage. The said liquid is then filled in the bottles by using an automatic filling machine. The bottles are finally capped and labelled by automatic machines.

**Figure 1: Production Process Flow**



**5.2 Proposed Product Mix**

The product mix would include bottles of different volumes. Detailed production mix is given in the table below:

**Table 1: Product Mix**

Sizes of Bottles	Production Percentage
250 ml.	55%
500 ml.	28%
1,000 ml.	17%
<b>Total</b>	<b>100%</b>

### 5.3 Installed and Operational Capacity

The installed and operational capacity of the floor cleaner manufacturing unit mainly depends upon the installed machinery.

The pre-feasibility study is based on a single mixing machine that has the capacity to produce 1.2 million litres of cleaner, filled in 2.7 million bottles of different sizes per annum on 08 hours single shift basis. Maximum capacity utilization of the unit is assumed at 90% however, during 1<sup>st</sup> year operation unit will operate at 55% capacity and will produce liquid for 1.485 million bottles.

The details of operational and installed capacity according to product mix are provided in the table below:

**Table 2: Installed and Operational Capacity**

Product Mix	Total Installed Capacity	Operational Capacity Year 1 (55%)
250 ml Bottles	1,500,000	825,000
500 ml Bottles	750,000	412,500
1,000 ml Bottles	450,000	247,500
<b>Total</b>	<b>2,700,000</b>	<b>1,485,000</b>

## 6 CRITICAL SUCCESS FACTORS

Following points should also be ensured to make the business successful:

- Prior knowledge and information about the chemical industry especially floor cleaner.
- Selection of appropriate plant and machinery.
- Develop strong linkages with raw material suppliers for sourcing quality material on time at economical prices.
- Efficient management of stock to keep inventory cost at the minimum.
- Induction of trained human resource for the handling of business operations especially in production and sales.
- Stringent supervision of the production process at every level.
- Effective marketing and distribution of the product particularly to the retailers.

## 7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

Due to the existence of the potential target customers in metropolitan cities, it is recommended to establish the proposed venture in these cities. Therefore, cities like Lahore, Islamabad, Karachi, Rawalpindi, Peshawar, Quetta etc. are the most suitable locations for erecting the proposed floor cleaner manufacturing unit.

## 8 POTENTIAL TARGET CUSTOMERS / MARKETS

The potential target customers of floor cleaner will be hospitals, households, restaurants, hotels, supermarkets and educational institutions. The product is directly sold to institutional customers whereas for the household customers product will be sold through distributors, wholesalers and retailers.

## 9 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of floor cleaner manufacturing unit. Various cost and revenue related assumptions along with the results of the analysis are outlined in this section.

The projected Income Statement, Balance Sheet and Cash Flow Statement are attached as annexures.

### 9.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of Rs. 218.917 million in the year one. The capacity utilization during year one is worked out at 55% with 5% increase in subsequent years up to the maximum capacity utilization of 90%.

In order to financially appraise the project, a 100% Equity-Based Business Model has been assumed. The following table shows Internal Rate of Return, Payback Period and Net Present Value of the proposed venture:

**Table 3: Project Economics (Equity Financed)**

Description	Details
Internal Rate of Return (IRR)	40%
Payback Period (Yrs.)	3.58
Net Present Value (Rs.)	107,326,388

Calculation of break-even analysis is as follows:

**Table 4: Breakeven (100% Equity-Based)**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Breakeven revenue	166,256,638	182,378,165	201,349,374	221,346,974	243,958,376	268,601,941	297,345,511	331,181,205	361,923,521	395,605,283
Breakeven units	1,104,288	1,101,244	1,105,269	1,104,584	1,106,747	1,107,768	1,114,830	1,128,808	1,121,446	1,114,374
Margin of Safety	24%	32%	37%	41%	45%	49%	51%	53%	54%	54%

However, for the purposes of further explanation the Project Economics based on Debt:Equity model (i.e. 50:50) has also been computed. The following table shows Internal Rate of Return, Payback Period and Net Present Value of the proposed venture on the basis of Debt: Equity model :

**Table 5: Project Economics Based on Debt (50%): Equity (50%)**

Description	Details
Internal Rate of Return (IRR)	38%
Payback Period (Yrs.)	3.83
Net Present Value (Rs.)	55,681,578

The financial assumptions for Debt: Equity is as follows:

**Table 5.1: Financial Assumptions for Debt: Equity Model**

Description	Details
Debt	50%
Equity	50%
Interest Rate on Debt	12%
Debt Tenure	5 years
Debt Payment / Year	Semi-Annual

The projected Income Statement, Balance Sheet and Cash Flow Statement enclosed as annexures are based on 100% Equity-Based Business Model.

## 9.2 Project Cost

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

**Table 6: Project Cost**

Description	Amount (Rs.)
<b>Capital Cost</b>	
Machinery and Equipment	11,537,397
Office Vehicles	2,655,237
Pre-Operating Costs	1,420,000
Furniture and Fixtures	1,456,090
Office Equipment	765,400
Security Deposit for Rental Building	450,000
Legal, Licensing, And Training Costs	200,000
<b>Total Capital Cost</b>	<b>18,484,124</b>
<b>Working Capital</b>	
Raw Material Inventory	3,886,588
Cash	1,749,023
Upfront Insurance Payment	496,742
Upfront Building Rental	450,000
Equipment Spare Part Inventory	30,293
<b>Total Working Capital</b>	<b>6,612,646</b>
<b>Total Project Cost</b>	<b>25,096,770</b>

## 9.3 Land & Building Requirement

In order to reduce the initial capital expenditure, the proposed floor cleaner manufacturing unit will be established on rental premises. Therefore, the building may be acquired in the industrial state or the outskirts of big cities. The rent of the building will depend on the area and geographical location of the unit. An estimated area of 6,130 sq. ft. will be required for the proposed venture.

The area requirement has been calculated on the basis of space requirement for production, management and storage. However, the unit's operating in the industry do not follow any set pattern. The following table shows calculations for project space requirement:

**Table 7: Land & Building Requirement**

Description	Area Required sq. ft.
Production Facility	1,800
RM, FG And SS Warehouse	1,025
Packing Area	1,000
Management Building	875
Quality Lab	450
Mosque	225
Inspection Area	225
Pavement/Driveway	225
Open Area	225
Electric Room	80
<b>Total</b>	<b>6,130</b>

For this particular pre-feasibility, the rent amount has been determined at Rs. 150,000 per month, to paid on a quarterly basis in advance.

#### 9.4 Machinery and Equipment Requirement

Machinery and equipment for the proposed project are stated below:

**Table 8: Machinery and Equipment**

Description	Qty.	Unit Cost (Rs.)	Total Cost (Rs.)
Automatic Filling Machine (4 Filling Heads)	1	1,907,914	1,907,856.25
Automatic Flat Bottle Labelling Machine	1	1,682,963	1,682,912.5
Automatic Round Bottle Labelling Machine	1	1,129,751	1,129,717.5
Liquid Mixer Machine	1	924,797	924,768.75

Automatic Capping Machine	1	633,194	633,175
Inject Printer	1	499,890	499,875
Custom Duty, Sale Tax, Clearance Charges			3,077,261
Generator (30 KVA)	1	900,000	900,000
Lab Equipment	1	300,000	300,000
Turbine (Water Pump)	1	250,000	250,000
Stacker	2	58,000	116,000
Industrial Exhaust Fans	3	38,610	115,830
<b>Total Machinery &amp; Equipment</b>			<b>11,537,396</b>

## 9.5 Furniture and Fixtures Requirement

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

**Table 9: Furniture and Fixture**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Electric Wiring and Lighting		500,000	500,000
Renovation		500,000	500,000
Table	7	19,286	135,000
Chairs	14	7,257	101,600
Fans	16	4,500	72,000
Guest Chairs	10	5,800	58,000
Tube lights	34	800	27,200
Carpeting	562 sq.ft	45	25,290
Sofa Set	1	25,000	25,000
Exhaust Fans	4	3,000	12,000
<b>Total</b>			<b>1,456,090</b>

## 9.6 Office Equipment Requirement

Following office equipment will be required for floor cleaner manufacturing unit ;

**Table 10: Office Equipment**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Laptops	4	60,500	242,000
Air-conditioners (1.5 ton)	3	80,500	241,500
Water Cooler	2	45,000	90,000
Computers	4	15,000	60,000
Fridge	1	51,500	51,500
LED	1	32,500	32,500
Computer Printer (S)	2	16,000	32,000
Telephone	7	1,200	8,400
Microwave Oven	1	7,500	7,500
<b>Total</b>			<b>765,400</b>

## 9.7 Raw Material Requirements

Following are the details of raw material required for the proposed venture:

**Table 11: Raw Material Requirements (Year 1)**

Description	Percentage	Cost (Rs. / Liter)
Water	85%	-
Caustic Soda (99%) Flake	1.50%	4.5
LAS acid (90%)	5.00%	120
SLES	5.00%	115
EDTA(Optional)	0.10%	10
Colour	0.01%	4.5
Formalin	0.10%	5
Perfume(0.2 - 0.3%)	3.29%	3
<b>Total</b>	<b>100%</b>	<b>262</b>

## 9.8 Human Resource Requirement

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

**Table 12: Human Resource Requirement**

Description	No. of Employees	Salary per Employee per Month (Rs.)
CEO	1	150,000
Production Manager	1	70,000
Finance Manager	1	70,000
Marketing/Sales Manager	1	70,000
Production Supervisor	1	45,000
Chemical Engineer	1	40,000
HSE Officer	1	35,000
Admin/IT	1	35,000
Store Incharge	2	35,000
Assistant Marketing	2	30,000
Machine Operator	3	25,000
Security Guard	2	25,000
Office Boys	1	20,000
Driver	1	20,000
Electrician	1	20,000
Labour*	5	18,000
Sweeper	2	18,000
<b>Total</b>	<b>27</b>	

*\*The hiring of the labour is linked with the production capacity. As the capacity increases, additional labour will be hired during the year and in the subsequent years*

It is assumed that the owner would have prior experience or knowledge about the floor cleaner manufacturing business. Salaries of all employees are estimated to increase by 10% annually.

## 9.9 Utilities and other costs

An essential cost to be borne by the business is the cost of electricity; the annual electricity expenses is estimated as Rs. 1.10 million. This project also requires marketing and promotional activities for which Rs. 2.18 million will be spent in year 1. Similarly, during the 1st year of operation communication and office expenses are estimated at Rs. 0.721 million and Rs. 0.360 million, respectively. The cost of maintenance of machinery is assumed as Rs. 1.45 million per annum.

## 9.10 Revenue Generation

Based on the operational capacity utilization of 55%, sales revenue during the first year of operations is provided in the table below

**Table 13: Revenue Generation (Year 1)**

Description	Rate Per Unit (Rs.)	Quantity Sold*	Total Revenue (Rs.)
1000 ml. Bottles	320	242,344	77,550,000
500 ml. Bottles	170	403,906	68,664,062
250 ml Bottles	90	807,813	72,703,125
<b>Total</b>		<b>1,454,063</b>	<b>218,917,187</b>

\* 7 Days Finished Good Inventory will be maintained

## 10 CONTACT DETAILS

In order to facilitate potential investors, contact details of vendors relevant to the proposed project is given below.

Name of Supplier	Type of Supplies	Address	Phone
Guangzhou Jutao Machinery Equipment Co. Ltd.	Filling, capping, labelling Machines	Building B1, Deli entrepreneurial zone, Hebian Road, Baiyun District, Guangzhou, China	+86-13632200312
Guangzhou Jinghu Mechanical and Electrical	Liquid mixer machine	No. 1005, Yushan West Road, Nanshuangyu Village, Shatou Street, Panyu District,	+86-1392232348

Equipment Co. Ltd.		Guangzhou, Guangdong, China	
JASCO	Generator 30 KVA	Daraz	

## 11 USEFUL WEB LINKS

Small and Medium Enterprises Development Authority (SMEDA)	<a href="http://www.smeda.org.pk">www.smeda.org.pk</a>
Government of Pakistan	<a href="http://www.pakistan.gov.pk">www.pakistan.gov.pk</a>
Ministry of Industries and Production	<a href="http://www.moip.gov.pk">www.moip.gov.pk</a>
Government of Punjab	<a href="http://www.punjab.gov.pk">www.punjab.gov.pk</a>
Government of Sindh	<a href="http://www.sindh.gov.pk">www.sindh.gov.pk</a>
Government of Khyber Pakhtunkhwa	<a href="http://www.khyberpakhtunkhwa.gov.pk">www.khyberpakhtunkhwa.gov.pk</a>
Government of Balochistan	<a href="http://www.balochistan.gov.pk">www.balochistan.gov.pk</a>
Government of Gilgit Baltistan	<a href="http://www.gilgitbaltistan.gov.pk">www.gilgitbaltistan.gov.pk</a>
Government of Azad Jammu Kashmir	<a href="http://www.ajk.gov.pk">www.ajk.gov.pk</a>
Security and Exchange Commission of Pakistan (SECP)	<a href="http://www.secp.gov.pk">www.secp.gov.pk</a>
State Bank of Pakistan (SBP)	<a href="http://www.sbp.org.pk">www.sbp.org.pk</a>
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	<a href="http://www.fpcci.com.pk">www.fpcci.com.pk</a>
Trade Development Authority of Pakistan (TDAP)	<a href="http://www.tdap.gov.pk">www.tdap.gov.pk</a>
Technical Education and Vocational Training Authority (TEVTA)	<a href="http://www.tevta.org">www.tevta.org</a>
Pakistan Chemical Manufacturers Association	<a href="http://www.pcma.org.pk">www.pcma.org.pk</a>

## 12 ANNEXURES

### 12.1 Income Statement

Calculations										
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	218,917,188	267,824,219	319,199,891	378,172,455	445,747,533	523,055,902	611,368,469	712,112,991	784,231,966	862,655,163
<i>Cost of sales</i>										
Cost of goods sold 1000ML Bottles	65,081,414	79,620,879	94,894,241	112,426,066	132,515,314	155,498,150	181,752,401	211,702,521	233,142,614	256,456,875
Cost of goods sold 500ML Bottles	54,234,512	66,350,732	79,078,534	93,688,388	110,429,428	129,581,792	151,460,334	176,418,767	194,285,512	213,714,063
Cost of goods sold 250ML Bottles	54,234,512	66,350,732	79,078,534	93,688,388	110,429,428	129,581,792	151,460,334	176,418,767	194,285,512	213,714,063
Cost of goods sold 1000ML Bottles - Pakaging	4,119,844	5,040,234	6,007,083	7,116,899	8,388,607	9,843,487	11,505,458	13,401,388	14,758,609	16,234,470
Cost of goods sold 500ML Bottles - Pakaging	4,039,063	4,941,406	5,889,297	6,977,352	8,224,124	9,650,478	11,279,861	13,138,616	14,469,224	15,916,147
Cost of goods sold 250ML Bottles - Pakaging	4,846,875	5,929,688	7,067,156	8,372,822	9,868,949	11,580,573	13,535,833	15,766,339	17,363,069	19,099,376
Operation costs 1 (direct labor)	4,171,250	4,677,865	5,407,281	5,948,691	6,544,210	7,546,674	8,301,978	9,553,234	10,520,734	11,572,807
Operating costs 2 (machinery maintenance)	1,454,063	1,698,047	1,931,786.72	2,184,655.43	2,457,981.54	2,753,178.63	3,071,750.48	3,415,296.56	3,590,216.73	3,769,727.56
Operating costs 3 (direct electricity)	986,021	1,171,565	1,384,358	1,627,995	1,906,514	2,224,458	2,586,926	2,999,642	3,299,607	3,629,567
<b>Total cost of sales</b>	<b>193,167,552</b>	<b>235,781,148</b>	<b>280,738,270</b>	<b>332,031,255</b>	<b>390,764,555</b>	<b>458,260,583</b>	<b>534,954,876</b>	<b>622,814,572</b>	<b>685,715,097</b>	<b>754,107,096</b>
<b>Gross Profit</b>	<b>25,749,636</b>	<b>32,043,070</b>	<b>38,461,621</b>	<b>46,141,200</b>	<b>54,982,977</b>	<b>64,795,318</b>	<b>76,413,593</b>	<b>89,298,419</b>	<b>98,516,869</b>	<b>108,548,067</b>
<i>General administration &amp; selling expenses</i>										
Administration expense	7,212,000	7,933,200	8,726,520	9,599,172	10,559,089	11,614,998	12,776,498	14,054,148	15,459,562	17,005,519
Administration benefits expense	721,200	793,320	872,652	959,917	1,055,909	1,161,500	1,277,650	1,405,415	1,545,956	1,700,552
Building rental expense	1,800,000	1,980,000	2,178,000	2,395,800	2,635,380	2,898,918	3,188,810	3,507,691	3,858,460	4,244,306
Electricity expense	116,596	128,256	141,081	155,189	170,708	187,779	206,557	227,213	249,934	274,927
Water expense	99,000	103,950	109,148	114,605	120,335	126,352	132,669	139,303	146,268	153,581
Travelling expense	360,600	396,660	436,326	479,959	527,954	580,750	638,825	702,707	772,978	850,276
Communications expense (phone, fax, mail, internet, etc.)	721,200	793,320	872,652	959,917	1,055,909	1,161,500	1,277,650	1,405,415	1,545,956	1,700,552
Office vehicles running expense	796,571	876,228	963,851	1,060,236	1,166,260	1,282,886	1,411,174	1,552,292	1,707,521	1,878,273
Office expenses (stationary, entertainment, janitorial services, etc.)	360,600	396,660	436,326	479,959	527,954	580,750	638,825	702,707	772,978	850,276
Promotional expense	2,189,172	2,678,242	3,191,999	3,781,725	4,457,475	5,230,559	6,113,685	7,121,130	7,842,320	8,626,552
Insurance expense	496,742	447,068	397,394	347,720	298,045	248,371	198,697	149,023	99,348	49,674
Professional fees (legal, audit, consultants, etc.)	547,293	669,561	798,000	945,431	1,114,369	1,307,640	1,528,421	1,780,282	1,960,580	2,156,638
Depreciation expense	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412
Amortization of pre-operating costs	284,000	284,000	284,000	284,000	284,000	-	-	-	-	-
Amortization of legal, licensing, and training costs	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Bad debt expense	2,189,172	2,678,242	3,191,999	3,781,725	4,457,475	5,230,559	6,113,685	7,121,130	7,842,320	8,626,552
<b>Subtotal</b>	<b>19,555,558</b>	<b>21,820,119</b>	<b>24,261,359</b>	<b>27,006,766</b>	<b>30,092,276</b>	<b>33,273,974</b>	<b>37,164,558</b>	<b>41,529,868</b>	<b>45,465,594</b>	<b>49,779,090</b>
<b>Operating Income</b>	<b>6,194,077</b>	<b>10,222,951</b>	<b>14,200,261</b>	<b>19,134,434</b>	<b>24,890,701</b>	<b>31,521,345</b>	<b>39,249,035</b>	<b>47,768,552</b>	<b>53,051,275</b>	<b>58,768,977</b>
Other income (interest on cash)	46,665	120,301	258,652	406,444	579,000	773,157	991,228	1,250,609	1,529,599	2,151,593
<b>Earnings Before Tax</b>	<b>6,240,742</b>	<b>10,343,252</b>	<b>14,458,913</b>	<b>19,540,878</b>	<b>25,469,701</b>	<b>32,294,502</b>	<b>40,240,263</b>	<b>49,019,160</b>	<b>54,580,874</b>	<b>60,920,570</b>
Tax	1,304,259	2,740,138	4,180,619	5,959,307	8,034,395	10,423,075	13,204,092	16,276,706	18,223,306	20,442,199
<b>NET PROFIT/(LOSS) AFTER TAX</b>	<b>4,936,483</b>	<b>7,603,114</b>	<b>10,278,294</b>	<b>13,581,571</b>	<b>17,435,306</b>	<b>21,871,427</b>	<b>27,036,171</b>	<b>32,742,455</b>	<b>36,357,568</b>	<b>40,478,371</b>

## 12.2 Balance Sheet

Calculations											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Assets</b>											
<i>Current assets</i>											
Cash & Bank	1,749,023	1,984,148	7,639,932	13,052,214	19,463,281	26,856,718	34,995,852	44,302,389	55,746,296	66,621,614	105,505,805
Accounts receivable		8,996,597	10,001,536	12,062,139	14,329,569	16,929,863	19,906,920	23,310,090	27,194,825	30,746,814	33,840,146
Finished goods inventory		4,109,948	4,920,650	5,858,102	6,927,627	8,152,251	9,559,543	11,158,568	12,990,339	14,285,731	15,710,564
Equipment spare part inventory	30,293	37,145	44,371	52,688	62,244	73,205	85,759	100,118	110,508	121,835	-
Raw material inventory	3,886,588	4,992,612	6,247,841	7,772,244	9,619,107	11,851,771	14,545,460	17,789,455	20,570,629	23,759,076	-
Pre-paid building rent	450,000	495,000	544,500	598,950	658,845	724,730	797,202	876,923	964,615	1,061,076	-
Pre-paid insurance	496,742	447,068	397,394	347,720	298,045	248,371	198,697	149,023	99,348	49,674	-
<b>Total Current Assets</b>	<b>6,612,646</b>	<b>21,062,517</b>	<b>29,796,224</b>	<b>39,744,056</b>	<b>51,358,718</b>	<b>64,836,907</b>	<b>80,089,434</b>	<b>97,686,565</b>	<b>117,676,559</b>	<b>136,645,822</b>	<b>155,056,516</b>
<i>Fixed assets</i>											
Security Deposit for Rental Building	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000
Machinery & equipment	11,537,397	10,383,658	9,229,918	8,076,178	6,922,438	5,768,699	4,614,959	3,461,219	2,307,479	1,153,740	-
Furniture & fixtures	1,456,090	1,310,481	1,164,872	1,019,263	873,654	728,045	582,436	436,827	291,218	145,609	-
Office vehicles	2,655,237	2,389,713	2,124,190	1,858,666	1,593,142	1,327,619	1,062,095	796,571	531,047	265,524	-
Office equipment	765,400	688,860	612,320	535,780	459,240	382,700	306,160	229,620	153,080	76,540	-
<b>Total Fixed Assets</b>	<b>16,864,124</b>	<b>15,222,712</b>	<b>13,581,300</b>	<b>11,939,887</b>	<b>10,298,475</b>	<b>8,657,062</b>	<b>7,015,650</b>	<b>5,374,237</b>	<b>3,732,825</b>	<b>2,091,412</b>	<b>450,000</b>
<i>Intangible assets</i>											
Pre-operation costs	1,420,000	1,136,000	852,000	568,000	284,000	-	-	-	-	-	-
Legal, licensing, & training costs	200,000	180,000	160,000	140,000	120,000	100,000	80,000	60,000	40,000	20,000	-
<b>Total Intangible Assets</b>	<b>1,620,000</b>	<b>1,316,000</b>	<b>1,012,000</b>	<b>708,000</b>	<b>404,000</b>	<b>100,000</b>	<b>80,000</b>	<b>60,000</b>	<b>40,000</b>	<b>20,000</b>	<b>-</b>
<b>TOTAL ASSETS</b>	<b>25,096,770</b>	<b>37,601,229</b>	<b>44,389,523</b>	<b>52,391,944</b>	<b>62,061,193</b>	<b>73,593,970</b>	<b>87,185,083</b>	<b>103,120,803</b>	<b>121,449,384</b>	<b>138,757,234</b>	<b>155,506,516</b>
<b>Liabilities &amp; Shareholders' Equity</b>											
<i>Current liabilities</i>											
Accounts payable		7,567,977	9,261,075	11,047,196	13,100,784	15,458,044	18,159,847	21,252,323	24,741,283	27,285,344	28,926,953
<b>Total Current Liabilities</b>	<b>-</b>	<b>7,567,977</b>	<b>9,261,075</b>	<b>11,047,196</b>	<b>13,100,784</b>	<b>15,458,044</b>	<b>18,159,847</b>	<b>21,252,323</b>	<b>24,741,283</b>	<b>27,285,344</b>	<b>28,926,953</b>
<b>Total Long Term Liabilities</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>							
<i>Shareholders' equity</i>											
Paid-up capital	25,096,770	25,096,770	25,096,770	25,096,770	25,096,770	25,096,770	25,096,770	25,096,770	25,096,770	25,096,770	25,096,770
Retained earnings		4,936,483	10,031,677	16,247,977	23,863,638	33,039,156	43,928,466	56,771,710	71,611,331	86,375,120	101,482,793
<b>Total Equity</b>	<b>25,096,770</b>	<b>30,033,253</b>	<b>35,128,448</b>	<b>41,344,747</b>	<b>48,960,409</b>	<b>58,135,926</b>	<b>69,025,236</b>	<b>81,868,480</b>	<b>96,708,102</b>	<b>111,471,890</b>	<b>126,579,563</b>
<b>TOTAL CAPITAL AND LIABILITIES</b>	<b>25,096,770</b>	<b>37,601,229</b>	<b>44,389,523</b>	<b>52,391,944</b>	<b>62,061,193</b>	<b>73,593,970</b>	<b>87,185,083</b>	<b>103,120,803</b>	<b>121,449,384</b>	<b>138,757,234</b>	<b>155,506,516</b>

## 12.3 Cash Flow Statement

Calculations											SMEDA
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
<i>Operating activities</i>											
Net profit		4,936,483	7,603,114	10,278,294	13,581,571	17,435,306	21,871,427	27,036,171	32,742,455	36,357,568	40,478,371
Add: depreciation expense		1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412	1,641,412
amortization of pre-operating costs		284,000	284,000	284,000	284,000	284,000	-	-	-	-	-
amortization of training costs		20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Accounts receivable		(8,996,597)	(1,004,939)	(2,060,603)	(2,267,430)	(2,600,294)	(2,977,057)	(3,403,170)	(3,884,735)	(3,551,990)	(3,093,332)
Finished goods inventory		(4,109,948)	(810,702)	(937,452)	(1,069,525)	(1,224,624)	(1,407,292)	(1,599,025)	(1,831,771)	(1,295,392)	(1,424,833)
Equipment inventory	(30,293)	(6,852)	(7,226)	(8,317)	(9,556)	(10,961)	(12,554)	(14,359)	(10,390)	(11,327)	121,835
Raw material inventory	(3,886,588)	(1,106,024)	(1,255,229)	(1,524,403)	(1,846,864)	(2,232,663)	(2,693,690)	(3,243,995)	(2,781,174)	(3,188,447)	23,759,076
Pre-paid building rent	(450,000)	(45,000)	(49,500)	(54,450)	(59,895)	(65,885)	(72,473)	(79,720)	(87,692)	(96,461)	1,061,076
Advance insurance premium	(496,742)	49,674	49,674	49,674	49,674	49,674	49,674	49,674	49,674	49,674	49,674
Accounts payable		7,567,977	1,693,099	1,786,121	2,053,588	2,357,260	2,701,804	3,092,475	3,488,960	2,544,062	1,641,609
Cash provided by operations	(4,863,623)	235,126	8,163,703	9,474,276	12,376,977	15,653,226	19,121,251	23,499,465	29,346,739	32,469,098	64,254,889
<i>Financing activities</i>											
Issuance of shares	25,096,770	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	25,096,770	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(18,484,124)	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by investing activities	(18,484,124)	-	-	-	-	-	-	-	-	-	-
<b>NET CASH</b>	<b>1,749,023</b>	<b>235,126</b>	<b>8,163,703</b>	<b>9,474,276</b>	<b>12,376,977</b>	<b>15,653,226</b>	<b>19,121,251</b>	<b>23,499,465</b>	<b>29,346,739</b>	<b>32,469,098</b>	<b>64,254,889</b>

## 13 KEY ASSUMPTIONS

### 13.1 Operating Cost Assumptions

Description	Details
Operating Costs Growth Rate	5.0%
Administration Benefits Expense	10% of Admin Expense
Travelling Expense	5% of Admin Expense
Communication Expense	10% of Admin Expense
Office Expense	5% of Admin Expense
Vehicles Running Expense	30% of Vehicles Cost
Promotional Expense	1% of Revenue
Insurance Rate	3.5%
Professional Fees (Legal, Audit, Consultants, etc.)	0.3% of Revenue
Bad Debt Expense	1.0% of Revenue
Licenses (NOC's for Chemicals)	Rs.200,000
Water Bore (Installation Cost)	Rs.100,000
Depreciation Method	Straight Line
Depreciation Rate	10%
Inflation Rate	10%
Electricity Price Growth Rate	10%
Water Price Growth Rate	5%
Gas Price Growth Rate	5%
Wage Growth Rate	10%
Office Equipment Price Growth Rate	5%
Office Vehicles Price Growth Rate	10%

### 13.2 Production Cost Assumptions

Description	Details			
	Bottles	250 ml	500 ml	1000ml
Raw Material (Rs.)		67	134	269
Packing (Rs.)		6	10	17
Cost of Goods Sold Growth Rate		10.0%		
Electricity Rate		Rs.20 / KWH		
Diesel Consumption Per Hour		7 litres		
Diesel Rate		Rs.107 / litre		

### 13.3 Revenue Assumptions

Description	Details			
	Bottles	250 ml	500 ml	1000ml
Production Capacity Year 1 (No.)		1,500,000	750,000	450,000
Sale Price Per Unit in Year 1 (Rs.)		90	170	320
Sale Price Growth Rate		10%		
Production Capacity Utilization		55%		
Production Capacity Utilization Growth Rate		5%		
Maximum Capacity Utilization		90%		
Hours Operational / Day		8		
Shift Length (Hours)		8		
Days Operational / Year		300		

# Small and Medium Enterprises Development Authority

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