



Pre-feasibility Study

AIR BUBBLE PACKING SHEET MANUFACTURING

January 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

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2 EXECUTIVE SUMMARY

Bubble Wrap or Air Bubble Packing Sheet is a transparent plastic material that is mainly used to pack fragile and easily breakable items. The bubbles have regularly spaced protruding air-filled hemispheres, which function as the cushioning agent for sensitive and breakable objects. It is widely used in packaging of precious decorative items, ceramics, glass products, mirrors, artworks and other sensitive products including electronics, furniture items and home appliances etc., to provide a safe and protected transportation.

This particular pre-feasibility study is for setting up an 'Air Bubble Packing Sheet Manufacturing Unit' in any major industrial city in Pakistan. The proposed unit will be equipped with latest machine to produce the high-quality air bubble wrapping sheets that will be sold to wholesalers and industrial users. The unit will have an installed capacity to produce 105,000 kilograms of air bubble sheet in a year based on 300 working days on 8 hours single shift basis. However, initial capacity utilization is assumed 55% with 5% annual growth, while maximum capacity utilization will be 90%. This production capacity is estimated to be economically viable and justifies the capital as well as operational cost of the project. However, entrepreneur's knowledge of industry, competitive pricing and strong linkage with suppliers and wholesalers are key factors for the success of this business.

Total project cost is estimated as Rs. 9.963 million with capital investment of Rs. 9.423 million and working capital Rs. 0.540 million. Based on an equity finance model, the project NPV is around Rs. 6.418 million, with an IRR of 29% and Payback Period of 4.17 years. The project will provide employment opportunities to 5 people including the Owner. The legal business status of this project is assumed to be '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 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 '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 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 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, and production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in **Air Bubble Packing Sheet Manufacturing** 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 basis of any Investment Decision.

5 BRIEF DESCRIPTION OF PROJECT & PRODUCT

Air bubble wrap is a flexible and transparent plastic sheet that contains many tiny air bubbles that are encased between two poly sheets as they are sealed together. This process allows encapsulated air to provide a cushion to protect against shock. Air bubble wrap sheets are very soft and convenient in packing and are available in different sizes. Due to its strong protection characteristics and cost effectiveness these wrapping sheets are widely used in packaging of different household items, precious decorative, crockery items, glassware, electronic and furniture products to avoid breakage and surface scratches. Air bubble packing sheets are made from Low Density Polyethylene (LDPE) plastic resin beads which are melted through the extrusion process and are converted in to thin films of air bubble plastic sheets.

This particular pre-feasibility study is based on a modern LDPE air bubble film extrusion line. The installed extrusion line can convert about 50 kilograms of LDPE

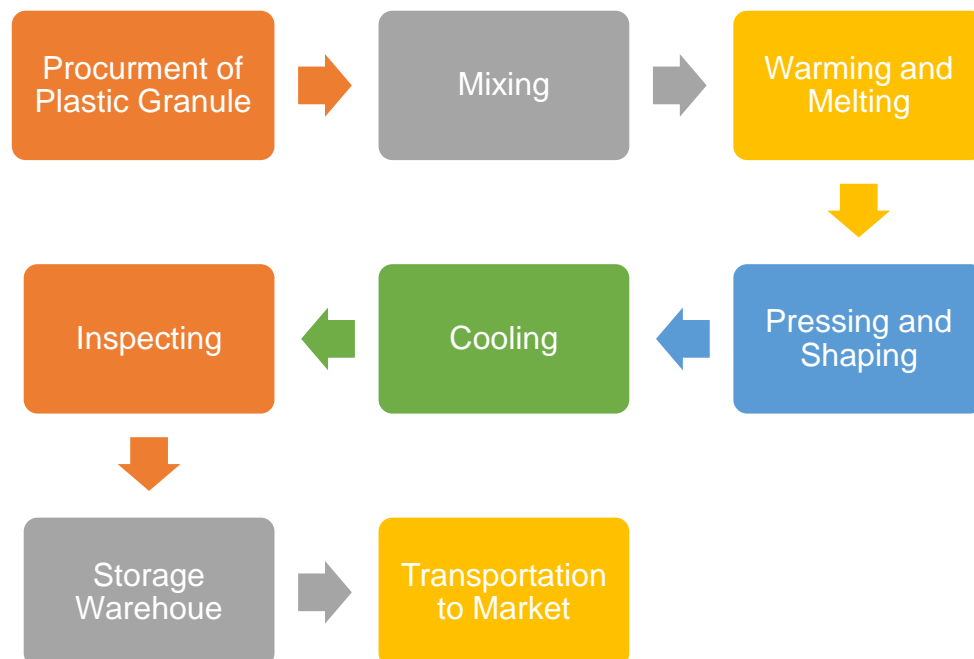
to plastic air bubble sheets per hour. The air bubble packing sheet produced will be rolled on card board rolls of various lengths up to one meter as per the requirements of the customers. However, these air bubble sheet rolls are sold on the basis of weight i.e. in kilograms. The proposed unit will purchase raw material i.e. LDPE plastic beads from the local market, which is very easily available. Financial analysis shows the unit shall be profitable from the very first year of operation. According to the proposed business model unit will mainly target to general consumers through wholesalers and business / industrial buyers on order manufacturing basis.

The ideal location for the proposed project is any major industrial city across Pakistan, however, it can also be established in other areas with availability of required infrastructural support, skilled labour and easy access to markets. The legal business status of this project is assumed to be 'Sole Proprietorship'.

5.1 Production Process Flow

The production process flow of air bubble packing sheet manufacturing starts with the purchase of 'LDPE Plastic Granules' from the market. The key steps involved in the manufacturing process are Mixing, Warming, Melting, Pressing, Shaping and Cooling operations. The process flow diagram of the air bubble packing sheet manufacturing is as follows.

Figure 1: Production Process Flow



5.2 Installed and Operational Capacities

The proposed unit has an installed capacity of producing 105,000 kilograms of air bubble packing sheet per annum. The project would initially operate at 55% production capacity in year 1, and 5% capacity utilization growth is assumed in the subsequent years. The maximum capacity utilization of the unit is worked out at 90% of installed capacity. The unit will operate on 8 hours single shift basis with 300 operational days in a year.

Details of operational and installed capacity are provided in the table below.

Table 1: Installed and Operational Capacity

Description	Total Installed Capacity	Max. Capacity Utilization – Year 10 (90%)	Capacity Utilization – Year 1 (55%)
Air Bubble Packing Sheet (Kgs)	105,000	94,500	57,750

6 CRITICAL FACTORS

Following are the factors critical for the success of this business venture;

- ⇒ Background knowledge and related experience of the entrepreneur in processing and manufacturing of plastic and rubber products.
- ⇒ Selection of quality LDPE granules on the basis of best analysis of cost and revenues; cost efficiency through better management.
- ⇒ Exceed customer expectations by offering high quality products at reasonable prices with quick turnaround times.
- ⇒ Appropriate arrangement for transportation of product to the processing unit.
- ⇒ Business location is the key to success for the air bubble wrap sheet unit, in order to have greater reach to its customers to meet its revenue targets.
- ⇒ Effective marketing and distribution of the product.
- ⇒ Employ careful financial and accounting analysis to ensure efficiency and proper controls.

7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

As the major customers of air bubble wrap sheets are industries, large scale stores and traders, so the unit should preferably be located in a major city in Pakistan. Therefore, cities like Islamabad, Karachi, Lahore, Peshawar, Quetta, Faisalabad,

Sialkot, Gujranwala, Multan, Rawalpindi and Hyderabad can be suitable locations for setting up this unit.

Subsequently, availability of skilled labor, raw material and close customer proximity is extremely important for the success of this business. Concerning to that, the above-mentioned cities are considered as the most appropriate location for the proposed venture.

8 POTENTIAL TARGET CUSTOMERS / MARKETS

Potential target customers for the produced air bubble wrap sheets will mainly the manufacturers, traders, large stores and industrial buyers. Since, target customer belongs to business segments, therefore, the business clients operating in major big cities, such as Lahore, Karachi, Peshawar, Quetta, Faisalabad, Sialkot, Gujranwala, Rawalpindi and Hyderabad will be the key potential markets for the proposed venture.

9 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of Air Bubble Packing Sheet Manufacturing Unit. Various costs and revenue related assumptions along with results of the analysis are outlined in this section.

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

9.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of Rs. 18,247,396 million in the year one. The capacity utilization during year one is worked out at 55%.

The following table shows internal rate of return, payback period and net present value of the proposed venture.

Table 2: Project Economics

Description	Details
Internal Rate of Return (IRR)	29%
Payback Period (Yrs.)	4.17
Net Present Value (Rs.)	6,417,957

Calculation of break-even analysis is as follows.

Table 3: Breakeven (100% Equity Based)

Break-Even Analysis	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Break Even Revenue	14,478,984	14,520,901	14,561,679	15,072,163	15,698,737	16,411,017	17,321,344	18,340,558	19,959,680	21,792,712
Break-Even Units	44,551	40,618	37,029	34,843	32,992	31,354	30,084	28,959	28,650	28,438
Margin of Safety	21%	34%	43%	49%	54%	58%	61%	64%	64%	63%

However, for the purposes of further explanation the Project Economics based on Debt:Equity (i.e. 50: 50) Model has also been computed. On the basis of Debt:Equity model the Internal Rate of Return, Payback Period and Net Present Value of the proposed project are provide in the table below.

Table 4: Project Economics Based on Debt (50%):Equity (50%)

Description	Details
Internal Rate of Return (IRR)	28%
Payback Period (Yrs.)	4.29
Net Present Value (Rs.)	8,282,090

The financial assumptions for Debt:Equity are as follows:

Table 5: Financial Assumptions for Debt:Equity Model

Description	Details
Debt 50%	4,981,511
Equity 50%	4,981,511
Interest Rate on Debt	12%
Debt Tenure	5 Years
Debt Payment / Year	2

The projected Income Statement, Cash Flow Statement and Balance Sheet, 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.
Capital Cost	
Machinery and Equipment	9,000,566
Furniture and Fixture	188,800
Office Equipment	78,500
Security Deposit	105,000
Pre-operating Costs	50,000
Total Capital Cost	9,422,866
Equipment Spare Part Inventory	7,252
Cash	262,090
Upfront Building Rent	35,000
Raw Material Inventory	235,813
Total Working Capital	540,155
Total Project Cost	9,963,021

9.3 Space Requirement

The space requirement for the proposed Air Bubble Packing Unit is estimated considering various facilities including management office, machinery room and storage. In order to reduce the initial capital investment, it is recommended to start the project in a rented building. Monthly rent assumed for the project is Rs. 35,000, besides that three (3) months' rent Rs. 105,000 will be paid as security deposit. Detail of covered area requirement for the project is given in below table.

Table 7: Space Requirement

Description	Covered Area (Sq. Ft)
Owner / Manager Office	120
Machine Room	1,056
Store	138
Washroom	36
Total	1,350

9.4 Machinery & Equipment Requirement

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

Table 8: Machinery & Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Bubble Wrap Machine	1	7,626,966	7,626,966
Generator	1	1,370,000	1,370,000
Tubs for Plastic Resin Beads	3	1,200	3,600
Total			9,000,566

9.5 Furniture & Fixtures Requirement

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

Table 9: Furniture & Fixture

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Owner / Manager Room			
Table & Chairs	1	30,000	30,000
Visitor Chairs	2	8,000	16,000
Sofas	2	12,000	24,000
Cupboard	1	12,000	12,000
Machine Room			
Chairs	4	2,000	8,000
Storeroom			
Chairs	3	2,000	6,000
Ceiling Fans	4	4,400	17,600
Exhaust Fans	2	2,600	5,200
LED Bulbs (18 Watts)	5	1,000	5,000
Air Conditioner (1 ton Split)	1	65,000	65,000
Total			188,800

9.6 Office Equipment Requirement

Following office equipment will be required for the project are given below.

Table 10: Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Computer	1	35,000	35,000
Printer	1	23,000	23,000
Water Dispenser	1	19,000	19,000
Telephones	1	1,500	1,500
Total			78,500

9.7 Raw Material requirements

Plastic resin beads and card rolls are the basic raw material required for air bubble sheets manufacturing. LDPE plastic resin beads will be procured locally as well as imported from China and other countries.

According to the estimated installed and operational capacity of the proposed unit, the quantities of raw material required during first year of operation are provided in the following table. The raw material requirement in subsequent years will be determined according to the capacity utilization of the unit. The purchasing cost of raw material is assumed to increase at 5% annually.

Table 11: Major Raw Material Required (Year 1)

Description	Quantity Required	Unit Cost (Rs.)	Total Cost (Rs.)
Plastic Resin Beads (Kg.)	57,750	212	11,902,917
Packing Rolls (Roll)	11,550	20	224,583
Total			12,127,500

9.8 Human Resource Requirement

In order to run operations of Air Bubble Packing Sheet Manufacturing Unit smoothly, details of human resources required along with number of employees and monthly salaries are recommended as under.

Table 12: Human Resource Requirement

Description	No. of Employees	Monthly Salary Per Person (Rs.)	Total Monthly Salary (Rs.)
Owner / Manager	1	50,000	50,000
Machine Operator	1	30,000	30,000
Helper	3	20,000	60,000
Total	5		140,000

9.9 Utilities and Other Costs

An essential cost to be borne by the project is the cost of electricity. The electricity expenses are estimated to be around Rs. 150,664 (Direct & In-direct) per month. Furthermore, promotional expense being essential for marketing of Air Bubble Packing business is estimated as 0.25% of Revenue.

9.10 Revenue Generation

Based on the 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	Quantity Sold Year 1 (Kgs.)	Finish Good Inventory (Kgs.)	Sale Price / Kg. (Rs.)	Sales Revenue (Rs.)
Air Bubble Packing	56,146	1,604	325	18,247,396
Total				18,247,396

10 CONTACT DETAILS

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

Table 14: Machinery Suppliers

Name of Supplier	Address	Phone
LINKAIR	www.linkairpak.com	0086-180 5005 7708

Table 15: Raw Material Suppliers

Name of Supplier	Address	Phone
Plastic Dana	Ameer Road, Data Gunj Buksh Town, Lahore, Punjab	0321- 4657219

11 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 Baluchistan	www.balochistan.gov.pk
Government of Gilgit Baltistan	www.gilgitbaltistan.gov.pk
Government of Azad Jammu 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
Punjab Small Industries Corporation	www.psic.gop.pk
Sindh Small Industries Corporation	www.ssic.gos.pk
Punjab Vocational Training Council (PVTC)	www.pvtc.gop.pk
Technical Education and Vocational Training Authority (TEVTA)	www.tevta.org
Pakistan Plastic Manufacturers Association (PPMA)	www.pakplas.com.pk

Punjab Industrial Estate Management and Development Company (PIEMDC)

www.pie.com.pk

Faisalabad Industrial Estate Management and Development Company (FIEMDC)

www.fiedmc.com.pk

12 ANNEXURES

12.1 Income Statement

Calculations										SMEDA
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	18,247,396	21,959,674	25,578,435	29,616,487	34,116,368	39,124,638	44,692,244	50,874,915	54,775,063	58,883,192
<i>Cost of sales</i>										
Cost of plastic raw material	11,902,917	14,324,465	16,685,010	19,319,062	22,254,369	25,521,302	29,153,094	33,186,098	35,730,195	38,409,959
Cost of packing rolls	224,583	270,273	314,812	364,511	419,894	481,534	550,058	626,153	674,155	724,716
Direct labor	1,050,000	1,185,250	1,304,008	1,434,628	1,578,300	1,736,331	1,910,160	2,101,367	2,315,076	2,546,584
Machinery maintenance	174,052	214,333	255,459	302,667	356,762	418,649	489,346	569,996	627,964	690,761
Direct electricity	1,751,328	1,926,461	2,119,107	2,331,018	2,564,119	2,820,531	3,102,584	3,412,843	3,754,127	4,129,540
Total cost of sales	15,102,880	17,920,781	20,678,395	23,751,885	27,173,443	30,978,347	35,205,243	39,896,456	43,101,517	46,501,560
Gross Profit	3,144,516	4,038,893	4,900,040	5,864,602	6,942,924	8,146,291	9,487,001	10,978,459	11,673,546	12,381,633
<i>General administration & selling expenses</i>										
Administration expense	600,000	660,000	726,000	798,600	878,460	966,306	1,062,937	1,169,230	1,286,153	1,414,769
Building rental expense	420,000	462,000	508,200	559,020	614,922	676,414	744,056	818,461	900,307	990,338
Electricity expense	56,635	62,299	68,529	75,381	82,920	91,212	100,333	110,366	121,403	133,543
Water expense	31,500	35,558	39,120	43,039	47,349	52,090	57,305	63,041	69,452	76,398
Travelling expense	30,000	33,000	36,300	39,930	43,923	48,315	53,147	58,462	64,308	70,738
Communications expense (phone, fax, mail, internet, etc.)	52,500	59,263	65,200	71,731	78,915	86,817	95,508	105,068	115,754	127,329
Office expenses (stationary, entertainment, janitorial services, etc)	157,500	177,788	195,601	215,194	236,745	260,450	286,524	315,205	347,261	381,988
Promotional expense Year 1-2	45,618	54,899	-	-	-	-	-	-	-	-
Professional fees (legal, audit, consultants, etc.)	91,237	109,798	127,892	148,082	170,582	195,623	223,461	254,375	273,875	294,416
Depreciation expense	940,127	940,127	940,127	943,724	943,144	943,144	947,307	946,636	946,636	951,456
Amortization of pre-operating costs	10,000	10,000	10,000	10,000	10,000	-	-	-	-	-
Miscellaneous expense 1	60,000	66,000	72,600	79,860	87,846	96,631	106,294	116,923	128,615	141,477
Subtotal	2,495,117	2,670,730	2,789,569	2,984,562	3,194,805	3,417,001	3,676,871	3,957,767	4,253,765	4,582,451
Operating Income	649,398	1,368,163	2,110,471	2,880,040	3,748,119	4,729,290	5,810,130	7,020,692	7,419,781	7,799,181
Other income (interest on cash)	18,522	52,220	98,898	152,499	212,292	275,847	343,531	416,865	489,083	583,513
Other income 2										
Gain / (loss) on sale of computer equipment	-	-	14,500	-	-	31,286	-	-	50,717	40,490
Earnings Before Interest & Taxes	667,920	1,420,383	2,223,869	3,032,539	3,960,411	5,036,422	6,153,661	7,437,557	7,959,581	8,423,184
Earnings Before Tax	667,920	1,420,383	2,223,869	3,032,539	3,960,411	5,036,422	6,153,661	7,437,557	7,959,581	8,423,184
Tax	16,792	103,057	223,580	378,135	610,103	930,927	1,273,781	1,723,145	1,905,853	2,068,114
NET PROFIT/(LOSS) AFTER TAX	651,128	1,317,326	2,000,289	2,654,405	3,350,308	4,105,496	4,879,880	5,714,412	6,053,728	6,355,070

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
Assets											
<i>Current assets</i>											
Cash & Bank	262,090	1,219,631	2,957,983	4,953,854	7,246,094	9,737,271	12,330,476	15,151,992	18,197,241	20,929,429	25,751,583
Finished goods inventory		431,511	498,954	575,630	661,086	756,218	862,006	979,524	1,109,948	1,197,264	1,291,710
Equipment spare part inventory	7,252	9,377	11,735	14,599	18,069	22,263	27,324	33,418	38,658	44,650	-
Raw material inventory	235,813	312,165	399,968	509,422	645,505	814,291	1,023,185	1,281,204	1,517,366	1,794,285	-
Pre-paid building rent	35,000	38,500	42,350	46,585	51,244	56,368	62,005	68,205	75,026	82,528	-
Total Current Assets	540,155	2,011,184	3,910,991	6,100,089	8,621,997	11,386,411	14,304,996	17,514,344	20,938,238	24,048,156	27,043,293
<i>Fixed assets</i>											
Building Security	105,000	105,000	105,000	105,000	105,000	105,000	105,000	105,000	105,000	105,000	105,000
Machinery & equipment	9,000,566	8,100,510	7,200,453	6,300,397	5,400,340	4,500,283	3,600,227	2,700,170	1,800,113	900,057	-
Furniture & fixtures	188,800	169,920	151,040	132,160	113,280	94,400	75,520	56,640	37,760	18,880	-
Computer equipment	58,000	38,860	19,720	67,722	44,985	22,828	78,397	52,076	26,427	90,754	60,285
Office equipment	20,500	18,450	16,400	14,350	12,300	10,250	8,200	6,150	4,100	2,050	-
Total Fixed Assets	9,372,866	8,432,740	7,492,613	6,619,629	5,675,905	4,732,762	3,867,344	2,920,036	1,973,400	1,116,741	165,285
<i>Intangible assets</i>											
Pre-operation costs	50,000	40,000	30,000	20,000	10,000	-	-	-	-	-	-
Total Intangible Assets	50,000	40,000	30,000	20,000	10,000	-	-	-	-	-	-
TOTAL ASSETS	9,963,021	10,483,924	11,433,604	12,739,718	14,307,903	16,119,173	18,172,339	20,434,380	22,911,638	25,164,897	27,208,578
Liabilities & Shareholders' Equity											
<i>Shareholders' equity</i>											
Paid-up capital	9,963,021	9,963,021	9,963,021	9,963,021	9,963,021	9,963,021	9,963,021	9,963,021	9,963,021	9,963,021	9,963,021
Retained earnings		520,902	1,470,582	2,776,697	4,344,881	6,156,152	8,209,318	10,471,359	12,948,617	15,201,876	17,245,557
Total Equity	9,963,021	10,483,924	11,433,604	12,739,718	14,307,903	16,119,173	18,172,339	20,434,380	22,911,638	25,164,897	27,208,578
TOTAL CAPITAL AND LIABILITIES	9,963,021	10,483,924	11,433,604	12,739,718	14,307,903	16,119,173	18,172,339	20,434,380	22,911,638	25,164,897	27,208,578

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		651,128	1,317,326	2,000,289	2,654,405	3,350,308	4,105,496	4,879,880	5,714,412	6,053,728	6,355,070
Add: depreciation expense		940,127	940,127	940,127	943,724	943,144	943,144	947,307	946,636	946,636	951,456
amortization of pre-operating costs		10,000	10,000	10,000	10,000	10,000	-	-	-	-	-
Finished goods inventory		(431,511)	(67,444)	(76,675)	(85,456)	(95,132)	(105,788)	(117,518)	(130,424)	(87,317)	(94,446)
Equipment inventory	(7,252)	(2,125)	(2,358)	(2,864)	(3,470)	(4,194)	(5,061)	(6,095)	(5,240)	(5,992)	44,650
Raw material inventory	(235,813)	(76,353)	(87,803)	(109,454)	(136,083)	(168,786)	(208,894)	(258,019)	(236,161)	(276,919)	1,794,285
Pre-paid building rent	(35,000)	(3,500)	(3,850)	(4,235)	(4,659)	(5,124)	(5,637)	(6,200)	(6,821)	(7,503)	82,528
Cash provided by operations	(278,065)	1,087,766	2,105,998	2,757,187	3,378,461	4,030,215	4,723,260	5,439,356	6,282,403	6,622,634	9,133,544
<i>Financing activities</i>											
Issuance of shares	9,963,021	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	9,963,021	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(9,422,866)	-	-	(67,142)	-	-	(77,726)	-	-	(89,977)	-
Cash (used for) / provided by investing activities	(9,422,866)	-	-	(67,142)	-	-	(77,726)	-	-	(89,977)	-
NET CASH	262,090	1,087,766	2,105,998	2,690,045	3,378,461	4,030,215	4,645,534	5,439,356	6,282,403	6,532,657	9,133,544

13 KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Description	Details
Communication Expenses	5% of Direct staff salaries
Travelling Expenses	5 % of Administration expenses
Promotional Expenses	0.25% of Revenues
Operating Expense Growth Rate	10%
Depreciation Method	Straight Line
Depreciation Rate for Furniture & Fixtures & Office Equipment	10% each
Inflation Growth Rate	10%
Electricity Price Growth Rate	10%
Salaries Growth Rate	10%

13.2 Production Assumptions

Description	Details
Days Operational / Year	300
Hours Operational / Day	8 (including 1 hour break)
No of Shifts 1 Shift	1 Shift
Installed Capacity of Air Bubble in Kgs	105,000
Production Capacity Utilization in First Year	55%
Percentage Increase In Production Capacity Every Year	5%
Maximum Production Capacity Utilization	90%
Cost of Plastic Resin Beads Per Kg – Year 1	Rs. 212
Cost of Card Rolls – Year 1	Rs. 20 per Roll
Raw Material Price Growth	5%

13.3 Revenue Assumptions

Description	Details
Sale Price Growth Price	7.5%
Maximum Capacity Utilization	90%
Sale Price Per Kg. – Year 1	Rs. 325

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