
Pre-Feasibility Study

POTATO CHIPS MANUFACTURING UNIT



Small and Medium Enterprises Development Authority

Ministry of Industries & Production

Government of Pakistan

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1 DISCLAIMER

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 has been taken to compile this document, the contained information may vary due to any change in any of the concerned factors, 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. 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 taking any decision to act upon the information.

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2 EXECUTIVE SUMMARY

Potato Chips Manufacturing Unit is proposed to be located in any big city of Pakistan. The unit will produce premium quality potato chips to be sold in the local market, competing with a few existing brands. The unit will be using modern automated machinery for all the processes, ensuring quality check throughout the production process. After processing, the finished potato chips are packed in 3 different packet sizes.

The opportunity of the snack food business was almost unknown to the investors of Pakistan up to the mid-eighties and since then the investment in this sector has been fairly moderate. Even during that time, the Pakistani snacks market was represented by biscuits and corn-based products. Potato chips have recently appeared on the snacks market and taken up a major share. Over the past few years the demand for snacks in general and potato chips has been on the rise, causing a gap between demand and supply. This gap opens up an opportunity to set up units to produce good quality snacks at optimum production level. Most of the snack manufacturing units are set-up in Lahore and Karachi.

The unit will produce a variety of flavored, premium quality potato chips in three standard packet sizes: 20gms, 50gms and 120gms. The overall proposed production capacity of the plant is 150 kg potato chips per hour. The plant will work in single shifts and operate at 70% capacity in the first year. The maximum capacity attained is 95% and the plant operates at this capacity sixth year onwards.

Total Cost Estimates is Rs. 52.20 million with Capital Cost Rs. 26.78 million and working capital Rs. 25.42 million. Given the cost assumptions IRR, payback and NPV are 34%, 4.17 years and Rs. 78.08 million respectively.

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 **Potato Chips Manufacturing Unit** 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

The project describes setting up a Potato Chips Manufacturing Unit in any big city of Pakistan. The unit will produce a variety of flavored, premium quality potato chips in three standard packet sizes: 20gms, 50gms and 120gms.

This proposed unit with modern processing machines including potato washer peeler, potato cutter, blanching machine, dewatering machine, fryer machine, de-oiling machine, flavoring machine, etc. will produce a variety of flavored, premium quality potato chips. The unit would be located in any major city of Pakistan like Lahore, Karachi, Peshawar and Rawalpindi, also in an area where raw material is easily available.

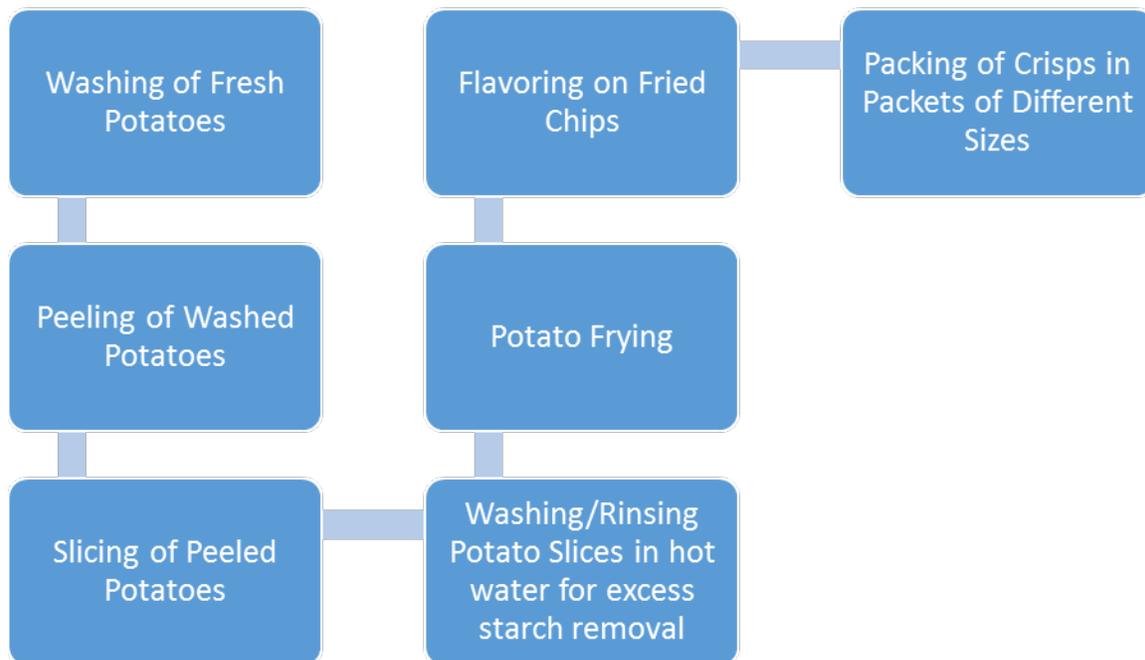
The proposed project will be producing branded potato chips in different packet sizes. 50% of the production will be flavoured with salt, the remaining 50% will

have other flavours. During school, when children tend to choose their own snacks, 70% select crisps and savory snacks compared to lunchboxes, which mothers generally pack. Some 44% of consumers prefer to buy children's snacks in multi-packs while nearly half of all consumers say they are price motivated in their snack purchasing.

The proposed project will provide direct employment to 44 people.

5.1 Production process flow

The process flow of making Potato Chips Manufacturing Unit is given in below figure;



The production process flow of Potato Chips Manufacturing Unit requires the following machinery;

- **Washing & Shelling Machine** - For washing of Fresh Potatoes
- **Peeling Machine** - For peeling of Potatoes
- **Slicing Machine** - For slicing Potatoes into Chips
- **Chips Washing Machine** - For washing and rinsing of Potato Chips in hot water for excessive starch removal before frying
- **Flavouring Machine** - For flavouring fried chips
- **Packing Machine** - For packing Finished Potato Chips in packets

5.2 Installed and Operational Capacities

The proposed Potato Chips Manufacturing Unit will have a maximum capacity to process 1,800 tons of Raw Potatoes (750 kgs / hour) a year based on 300 working days, which will produce 360,000 Kgs of Potato Chips (20% of the Potatoes) annually. Remaining will be sold to local market as Burnt Chips, Under-fried or Chura Chips. However, for the sake of this Pre-feasibility study only Chura Chips will be sold to local market which is 25% of the processing of the potatoes.

Deciding the project capacity is a critical factor. After thorough market research, the production capacity of this particular pre-feasibility is decided to be 150 kg per hour of finished potato chips, which is the minimum viable size for a Chips Manufacturing Unit. There is huge demand of Potato Chips (Snacks Food Industry) in and outside Pakistan; therefore, a sizeable production is required. The proposed project can also be started with production capacity of more than 150 kg per plant hour. The unit will be working on single shift.

Table 1: Installed and Production Capacity

Description	Production Percentage	Installed Production Capacity (Packets)	Production during Year 1 (70% of Installed Capacity)
20 Grams Packet	45%	8,100,000	5,670,000
50 Grams Packet	40%	2,880,000	2,016,000
120 Grams Packet	15%	450,000	315,000
Total	100%	11,430,000	8,001,000

6 CRITICAL FACTORS

One of the key success factors for the proposed project would be to control and carefully monitor the entire production process as it involves high waste production in the form of burnt and chura chips. Another important aspect of this proposed feasibility is the marketing and promotion of potato chips in the local as well as foreign market. This involves allocating a heavy budget towards promotional activities.

The current Potato Chips (Crisps) market is already led by Lays, Oye Hoyo, Super Crisps and Golden Crisps. The remaining market share belongs to the unbranded potato chips. This market share can only be captured through an aggressive marketing campaign. Therefore, entering into the market needs heavy investment towards marketing and advertisement.

Key success factors will be;

- Utmost care should be taken while selecting potatoes. Only the best quality and carefully handled potatoes should be used.
- Waste production should be kept at minimum and production process needs to be monitored very carefully.
- Selected potatoes should be delicately sliced, quick fried in the finest vegetable oil and seasoned with delicious flavours.
- A variety of flavours should be introduced.
- Advance sale orders can ensure the success of the business.
- Product should be offered in different price ranges so it is affordable to all income groups creating a wide range of target market.
- About 40% of the potato chips market share comprises of un-branded chips, this share can be gained through heavy marketing campaign.
- It is recommended to estimate the potato requirements for the year and this should be contracted for in advance with the suppliers so as to secure from the drastic changes in the prices of Potatoes.
- Quality maintenance will play an important role as it is evident from the behaviour of the general consumers that they are more specific towards health issues than ever before.
- Cost Accounting system should be strengthened so as to monitor the entire process and determine the reasons for major variances in the process such as Material, Labour and Factory Overhead Variances.

7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

The said project can be set up in any Industrial Area of Pakistan. It is recommended to establish the unit in an area where raw material is easily available. It may be any Industrial Area of Okara, Lahore, Karachi, Rawalpindi or Islamabad.

7.1 Market Information About Potatoes

Pakistan is one of the largest potato producing countries, yet it has very limited adequate storage and processing facilities, due to which a substantial proportion of production is wasted. The combination of inadequate storage facilities and an under-developed processing industry leads to volatility in prices, given that not all of the excess production can be stored or processed for consumption during the off-season. The following analysis will illustrate the current state of the potato production in Pakistan.

Potatoes are improperly stored at temperatures negative 3-4 degree celsius mainly for seed storage purpose. These temperatures are maintained only to avoid sprouting since no humidity levels are administered, which is a vital factor for proper storage of potatoes for consumption and processing. About 5% of total potato production is being exported and 18% of the production is stored for potato seeds.

Pakistan produces three potato crops per year. The major produce of the Potato Crop is harvested in the autumn season.

Table 2: Crop Seasons

Potato Crop Season	Sowing – Month	Harvesting - Month
Autumn Crop	October	January
Summer Crop	January	May – June
Spring Crop	April – May	August – September

Table 3: Major Varieties and Characteristics of Potato Grown In Pakistan

Variety	Shape	Color of Flesh	Cooking Type	Utilization	Common Scab
Diamante	Oval	Light Yellow	Mealy + Firm	French Fries	Just Resistible
Cardinal	Oval	Light Yellow	Mealy + Firm	French Fries + Crisps	Quite Resistible
Desiree	Long Oval	Light Yellow	Mealy + Firm	French Fries	Just Resistible
Raja	Oval	Yellow	Mealy + Firm	French Fries	Quite Resistible
Sante	Oval	Light Yellow	Very Meal + Firm	Crisps	Just Resistible

7.2 Potato Whole - Sales Price Trends

In the absence of adequate storage facilities, at the time of harvest, there is a huge supply of potatoes, which drives prices down. If storage facilities are available price volatility could be stabilized through consistent supply year around.

7.3 Market Information About Potato Chips

For a very long time, the snacks market of Pakistan comprised mostly of biscuits, corn-based and other non-potato snacks. It is only recently, with the advent of

globalization and adoption of the western culture that potato crisps have become a major part of the snacks industry. The snacks market comprises of a few known local potato chips brands and a single international brand.

Lays has been the largest player in this segment since it entered the market in 2007. By introducing innovative and trendsetting potato chips flavors backed with international quality, Lays became the growth catalyst for the natural potato chips category. Following are the major and leading producers of Potato Chips (Crisps) in Pakistan.

Table 4: Leading Potato Chips Companies in Pakistan

Sr. No.	Company Name	Brand Name
1	Standard Foods (Pvt.) Limited	Golden Chips
2	Tripple EM (Pvt.) Limited	Super Crisps
3	Kohinoor Smith (Pvt.) Limited	Smiths
4	Consolidate	Kolson
5	Trading Enterprises	Krinckles
6	PepsiCo Inc	Lay's
7	United Snacks	Oye Hoyer

7.4 Market Research, Trend & Analysis

Pakistan's food sector is changing significantly as lifestyles and traditional eating habits are shifting. Retail sales of processed foods are expanding. Demand for international quality snacks is growing, particularly among educated, middle and upper income urban consumers due to changing lifestyles and change in the taste of the consumer, influence of foreign media and increasing awareness. Other factors influencing the demand are the growing population, increase in income level and improved living standards. Advertising is also helping to stimulate demand for potato snacks. The only key factor currently impacting the Crisps and Savory Snacks market is public inclination towards health issues.

7.5 Pakistan & Snacks Industry

The Pakistan Snacks Industry is experiencing an annual growth rate of 20-30% per annum. Children, teenagers and young people are the target market of this product and given the changing eating habits of the target market, inclination is more towards having snacks. Potato and corn snacks are labelled as a meal replacement, and being a light fast food are becoming popular.

Another plus point for the investor is that in Pakistan the life style is improving with urbanization. Also, due to satellite invasion and influence of foreign media the demand for snacks is bound to register a considerable boost.

The potential market for the Snacks also exists in the Middle East, Gulf Countries and Central Asian States which has not yet been explored. Overall, export prospects for the next decade are very promising given the sustained and continued expansion of the Fast Food Industry abroad.

7.6 Raw Material Requirement

Pakistan is a potato growing country and has a major advantage of availability and lower prices. Potatoes produced in Pakistan are appropriate and ideal to produce quality potato chips. Potatoes will be procured twice a year directly from farms and transported to the rented cold storage facility for storage.

Raw materials used in Potato Chips Manufacturing include;

- Potatoes
- Vegetable Ghee / Cooking Oil
- Flavours
- Packing / Packaging material

7.7 Proposed Product Mix

The proposed project will be producing branded potato chips in different packet sizes. 50% of the production will be flavored with salt, the remaining 50% will have other flavors. The product mix according to packet size is given in the table below.

Table 5: Product Mix

Packet Size	Production Mix	Sale Price (Rs.)
20 grams	45%	10
50 grams	40%	20
120 grams	15%	50

8 POTENTIAL TARGET CUSTOMERS / MARKETS

Children, teenagers and adults are the target market of potato chips. Schools, colleges, universities, rather than home, is the most popular destination for eating crisps and savory snacks.

9 PROJECT COST SUMMARY

9.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of Rs. 146.81 million in the year one. The capacity utilization during year one is

worked out at 70% with 5% increase in subsequent years up to the maximum capacity utilization of 95 %.

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

Table 6: Project Economics

Description	Details
Internal Rate of Return (IRR)	34%
Payback Period (yrs.)	4.17
Net Present Value (Rs.)	78,083,320

9.2 Project Financing

Following table provides details of the equity required and variables related to bank loan;

Table 7: Project Financing

Description	Details
Total Equity (50%)	Rs.26,098,364
Bank Loan (50%)	Rs.26,098,364
Markup to the Borrower (%age / annum)	14 %
Tenure of the Loan (Years)	5 years

9.3 Project Cost

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

Table 8: Project Cost

Description	Amount Rs.
Capital Cost	
Land	5,000,000
Building Infrastructure	12,011,263
Machinery and Equipment	3,821,117
Office Vehicles	1,511,100

Furniture & Fixtures	1,436,000
Office Equipment	724,000
Pre-operating Cost	2,222,000
Legal / Licensing Cost	50,000
Total Capital Cost	26,775,480
Working Capital	
Equipment Spare part inventory	38,211
Raw Material Inventory	18,839,038
Cold storage Rent	5,355,000
Raw material Transport cost	189,000
Cash	1,000,000
Total Working Capital	25,421,249
Total Project Cost	52,196,729

9.4 Space Requirement

Approximately 2 kanals of land worth Rs. 5.00 million would be required for establishing Potato Chips Manufacturing Unit for such capacity. The space requirement for the proposed 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 is given below;

Table 9: Space Requirement

Description	Estimated Area (Sq.ft.)	Unit Cost (Rs.)	Total Cost (Rs.)
Plant Area	3,000	1,500	4,500,000
Generator Area	200	600	120,000
Vacuum Nitrogen Packing Machine (Air Compressor Room)	600	1,500	900,000
Management Office	500	2,000	1,000,000
Accessories Store	300	1,000	300,000
Potato Store	1,000	1,800	1,800,000
Finished Goods Store	1,000	1,800	1,800,000
Toilets	300	1,500	450,000
Grounds, Loading and Unloading Bay	2,100	100	210,000

Water Tank			400,000
Boundary wall	379	1,400	531,263
Total Infrastructure			12,011,263

9.5 Machinery & Equipment Requirement

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

Table 10: Machinery & Equipment Requirement

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Potato washer peeler	1	260,652	260,652
Potato cutter	1	232,190	232,190
Blanching Machine	1	450,149	450,149
Dewatering Machine	1	208,436	208,436
Fryer Machine	1	734,448	734,448
De-oiling Machine	1	208,436	208,436
Flavoring Machine	1	113,741	113,741
Vacuum Nitrogen Packaging Machine (Air Compressor)	1	307,946	307,946
Duties, Freight and Installation Charges			805,119
Miscellaneous			500,000
Total			3,821,117

9.6 Furniture & Fixtures Requirement

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

Table 11: Furniture & Fixtures Requirement

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Office Furniture – Misc.	1	350,000	350,000
Table	12	12,000	144,000
Chairs	36	4,000	144,000
Shelves	14	12,000	168,000
Air Conditioners	2	65,000	130,000
Generator (50 KVA)	1	500,000	500,000
Total			1,436,000

9.7 Office Equipment Requirement

Following office equipment will be required for Potato Chips Manufacturing Unit

Table 12: Office Equipment Requirement

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Laptops	4	75,000	300,000
Computers	5	45,000	225,000
Printers	2	20,000	40,000
Networking	1	150,000	150,000
Telephone Sets	6	1,500	9,000
Total			724,000

9.8 Human Resource Requirement

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

Table 13: Human Resource Requirement

Description	No. of Employees	Monthly Salary per person (Rs.)
CEO	1	80,000
Administrative Staff		
Admin & Finance Manager	1	45,000
Account Officer	1	35,000
Purchase Officer	2	20,000
Office Boys	2	15,000
Driver	2	20,000
Security Guard / Gate Keeper	3	16,000
Sweeper	2	15,000
Marketing Staff		
Marketing Manager	1	45,000
Assistant Manager Sales	1	35,000

Sales Supervisor	1	25,000
Sale Representatives	4	20,000
Production Staff		
Production Manager	1	45,000
Technical Supervisor	1	30,000
Quality In-charge	1	30,000
Store Supervisor	1	25,000
Machine Operator	1	20,000
Fryer Supervisor	2	25,000
Labor	16	15,000
Total	44	

9.9 Utilities and Other Costs

An essential cost to be borne by the project is the cost of electricity and gas. The electricity expenses are estimated to be around Rs. 204,750 per month, whereas, gas expense are estimated to be Rs. 630,000 / year. Furthermore, promotional expense being essential for marketing of Potato Chips manufacturing unit is estimated as 3 % of revenue.

9.10 Revenue Generation

Based on the capacity utilization of 45%, 40% and 15% for 20 grams packet, 50 grams packet and 120 grams packet respectively, sales revenue during the first year of operations is estimated as under;

Table 14: Revenue Generation – Year 1

Description	Production during Year 1 (70% of Installed Capacity)	Finished Goods Inventory	Sale during Year 1	Sale Price / Packet (Rs.)	Sales Revenue (Rs.)
20 Grams Packet	5,670,000	(189,000)	5,481,000	10	54,810,000
50 Grams Packet	2,016,000	(67,200)	1,948,800	20	38,976,000
120 Grams Packet	315,000	(10,500)	304,500	50	15,225,000
Revenue from Potato Chips					109,011,000
Revenue from Burnt Chips ,Under-fried or Chura Chips			315,000 Kgs	120 / Kg	37,800,000
Total Revenue					146,811,000

10 CONTACT DETAILS

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

10.1 Machinery Suppliers

Name of Supplier	Address	Phone	Contact
Amisy Trading Co.,Ltd	No. A511, Soke Yufa Building, No. 26, Jingliu Rd., Jinshui Dist., Zhengzhou, Henan, China	0086-13523507946	hnsusan03@amisy.com.cn
Campbell Wrapper Machinery	1415 Fortune Avenue, De Pere, WI 54115 USA	+1 920) 983-7100	www.campbellwrapper.com
Xuzhi Equipment Co. Limited		4001-681-681	www.lucy.168.com

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
Ministry of Education, Training & Standards in Higher Education	http://moptt.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
Punjab Small Industries Corporation	www.psic.gop.pk
Sindh Small Industries Corporation	www.ssic.gos.pk
Pakistan Horticulture Development and Export Company (PHDEC)	www.phdec.org.pk
Punjab Vocational Training Council (PVTC)	www.pvtc.gop.pk
Technical Education and Vocational Training Authority (TEVTA)	www.tevta.org
Pakistan Readymade Garment Technical Training Institute	www.prgmea.org/prgtti/
Livestock & Dairy Development Department, Government of Punjab.	www.livestockpunjab.gov.pk
Punjab Industrial Estates (PIE)	www.pie.com.pk

12 ANNEXURES

12.1 Income Statement

Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	146,811,000	177,162,150	207,891,915	242,996,012	283,042,008	328,667,244	362,009,633	398,210,596	438,031,655	481,834,821
<i>Cost of sales</i>										
Raw material costs (Potatoes)	25,200,000	29,700,000	34,848,000	40,728,600	47,436,840	55,079,442	60,587,386	66,646,125	73,310,737	80,641,811
Cold storage rental	10,710,000	12,622,500	14,810,400	17,309,655	20,160,657	23,408,763	25,749,639	28,324,603	31,157,063	34,272,770
Transportation costs	3,780,000	4,455,000	5,227,200	6,109,290	7,115,526	8,261,916	9,088,108	9,996,919	10,996,611	12,096,272
Other raw material cost	62,390,375	72,824,789	84,693,912	98,185,055	113,508,641	130,900,960	143,095,870	156,510,273	171,266,115	187,497,541
Direct Labour costs	3,966,000	4,362,600	4,798,860	5,278,746	5,806,621	6,387,283	7,026,011	7,728,612	8,501,473	9,351,621
Machinery maintenance expense	382,112	401,217	421,278	442,342	464,459	487,682	512,066	537,670	564,553	592,781
Direct electricity expense	1,822,500	2,004,750	2,205,225	2,425,748	2,668,322	2,935,154	3,228,670	3,551,537	3,906,691	4,297,360
Direct gas expense	630,000	675,000	720,000	765,000	810,000	855,000	855,000	855,000	855,000	855,000
Freight charges	1,247,808	1,456,496	1,693,878	1,963,701	2,270,173	2,618,019	2,861,917	3,130,205	3,425,322	3,749,951
Total cost of sales	110,128,795	128,502,352	149,418,754	173,208,137	200,241,239	230,934,219	253,004,668	277,280,943	303,983,565	333,355,105
Gross Profit	36,682,205	48,659,798	58,473,161	69,787,875	82,800,769	97,733,025	109,004,964	120,929,653	134,048,090	148,479,716
<i>General administration & selling expenses</i>										
Administration expense	6,396,000	7,035,600	7,739,160	8,513,076	9,364,384	10,300,822	11,330,904	12,463,995	13,710,394	15,081,433
Administration benefits expense	319,800	351,780	386,958	425,654	468,219	515,041	566,545	623,200	685,520	754,072
Deisel expense for Generator	619,200	650,160	682,668	716,801	752,641	790,274	829,787	871,277	914,840	960,582
Electricity expense	634,500	697,950	767,745	844,520	928,971	1,021,869	1,124,055	1,236,461	1,360,107	1,496,118
Travelling expense	1,918,800	2,110,680	2,321,748	2,553,923	2,809,315	3,090,247	3,399,271	3,739,198	4,113,118	4,524,430
Communications expense (phone, fax, mail, internet, etc.)	639,600	703,560	773,916	851,308	936,438	1,030,082	1,133,090	1,246,399	1,371,039	1,508,143
Office expenses (stationary, entertainment, janitorial etc.)	319,800	351,780	386,958	425,654	468,219	515,041	566,545	623,200	685,520	754,072
Promotional expense	4,404,330	5,314,865	6,236,757	7,289,880	8,491,260	9,860,017	10,860,289	11,946,318	13,140,950	14,455,045
Professional fees (legal, audit, consultants, etc.)	734,055	885,811	1,039,460	1,214,980	1,415,210	1,643,336	1,810,048	1,991,053	2,190,158	2,409,174
Depreciation expense	1,500,895	1,500,895	1,500,895	1,500,895	1,500,895	1,802,004	1,802,004	1,802,004	1,802,004	1,802,004
Amortization of pre-operating costs	444,400	444,400	444,400	444,400	444,400	-	-	-	-	-
Amortization of legal, licensing, and training costs	10,000	10,000	10,000	10,000	10,000	-	-	-	-	-
Bad debt expense	1,468,110	1,771,622	2,078,919	2,429,960	2,830,420	3,286,672	3,620,096	3,982,106	4,380,317	4,818,348
Subtotal	19,454,823	21,878,968	24,424,437	27,281,389	30,486,746	33,928,414	37,122,947	40,613,552	44,451,142	48,670,314
Operating Income	17,227,382	26,780,830	34,048,724	42,506,486	52,314,023	63,804,610	71,882,018	80,316,101	89,596,948	99,809,401
Gain / (loss) on sale of office equipment	-	-	-	-	289,600	-	-	-	-	538,804
Gain / (loss) on sale of office vehicles	-	-	-	-	604,440	-	-	-	-	1,124,567
Earnings Before Interest & Taxes	17,227,382	26,780,830	34,048,724	42,506,486	53,208,063	63,804,610	71,882,018	80,316,101	89,596,948	101,472,772
Interest on short term debt	1,014,553	1,163,690	149,137	-	-	-	-	-	-	-
Interest expense on long term debt (Project Loan)	1,874,284	1,590,735	1,267,490	898,991	478,902	-	-	-	-	-
Interest expense on long term debt (Working Capital Loan)	984,380	-	-	-	-	-	-	-	-	-
Subtotal	3,873,216	2,754,425	1,416,627	898,991	478,902	-	-	-	-	-
Earnings Before Tax	13,354,166	24,026,405	32,632,097	41,607,495	52,729,162	63,804,610	71,882,018	80,316,101	89,596,948	101,472,772
Tax	3,896,458	7,631,741	10,643,733	13,785,123	17,677,706	21,554,113	24,381,205	27,333,135	30,581,431	34,737,969
NET PROFIT/(LOSS) AFTER TAX	9,457,709	16,394,664	21,988,364	27,822,373	35,051,456	42,250,497	47,500,812	52,982,966	59,015,517	66,734,802

12.2 Balance Sheet

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	1,000,000	-	-	12,643,685	31,752,845	53,006,867	90,095,260	132,032,180	179,132,970	231,509,956	371,070,358
Accounts receivable		7,340,550	8,099,329	9,626,352	11,272,198	13,150,950	15,292,731	17,266,922	19,005,506	20,906,056	22,996,662
Finished goods inventory		3,797,545	4,292,952	4,991,023	5,784,948	6,687,091	7,711,336	8,433,489	9,242,698	10,132,786	11,111,837
Equipment spare part inventory	38,211	40,122	42,128	44,234	46,446	48,768	51,207	53,767	56,455	59,278	62,242
Raw material inventory (Potato)	12,600,000	14,850,000	17,424,000	20,364,300	23,718,420	27,539,721	30,293,693	33,323,062	36,655,369	40,320,906	-
Other raw material inventory	6,239,038	7,282,479	8,469,391	9,818,506	11,350,864	13,090,096	14,309,587	15,651,027	17,126,611	18,749,754	-
Cold Storage rental	5,355,000	6,311,250	7,405,200	8,654,828	10,080,329	11,704,381	12,874,820	14,162,302	15,578,532	17,136,385	-
Raw material transport cost	189,000	222,750	261,360	305,465	355,776	413,096	454,405	499,846	549,831	604,814	-
Pre-paid insurance	-	-	-	-	-	-	-	-	-	-	-
Total Current Assets	25,421,249	39,844,695	45,994,359	66,448,392	94,361,825	125,640,971	171,083,039	221,422,595	277,347,972	339,419,933	405,241,098
<i>Fixed assets</i>											
Land	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Building/Infrastructure	12,011,263	11,410,700	10,810,136	10,209,573	9,609,010	9,008,447	8,407,884	7,807,321	7,206,758	6,606,194	6,005,631
Machinery & equipment	3,821,117	3,439,006	3,056,894	2,674,782	2,292,670	1,910,559	1,528,447	1,146,335	764,223	382,112	(0)
Furniture & fixtures	1,436,000	1,292,400	1,148,800	1,005,200	861,600	718,000	574,400	430,800	287,200	143,600	-
Office vehicles	1,511,100	1,208,880	906,660	604,440	302,220	2,433,642	1,946,913	1,460,185	973,457	486,728	-
Office equipment	724,000	651,600	579,200	506,800	434,400	1,528,009	1,339,008	1,150,007	961,006	772,006	2,460,874
Total Fixed Assets	24,503,480	23,002,585	21,501,690	20,000,795	18,499,901	20,598,657	18,796,652	16,994,648	15,192,644	13,390,640	13,466,505
<i>Intangible assets</i>											
Pre-operation costs	2,222,000	1,777,600	1,333,200	888,800	444,400	-	-	-	-	-	-
Legal, licensing, & training costs	50,000	40,000	30,000	20,000	10,000	-	-	-	-	-	-
Total Intangible Assets	2,272,000	1,817,600	1,363,200	908,800	454,400	-	-	-	-	-	-
TOTAL ASSETS	52,196,729	64,664,880	68,859,250	87,357,987	113,316,126	146,239,628	189,879,692	238,417,243	292,540,616	352,810,574	418,707,604
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable		5,124,025	5,999,546	6,997,522	8,133,926	9,426,699	10,816,265	11,853,004	12,993,411	14,247,852	13,410,080
Short term debt	-	12,622,387	1,855,465	-	-	-	-	-	-	-	-
Total Current Liabilities	-	17,746,412	7,855,011	6,997,522	8,133,926	9,426,699	10,816,265	11,853,004	12,993,411	14,247,852	13,410,080
<i>Other liabilities</i>											
Deferred tax		-	-	-	-	-	-	-	-	-	-
Long term debt (Project Loan)	13,387,740	11,362,395	9,053,502	6,421,364	3,420,727	-	-	-	-	-	-
Long term debt (Working Capital Loan)	12,710,624	-	-	-	-	-	-	-	-	-	-
Total Long Term Liabilities	26,098,364	11,362,395	9,053,502	6,421,364	3,420,727	-	-	-	-	-	-
<i>Shareholders' equity</i>											
Paid-up capital	26,098,364	26,098,364	26,098,364	26,098,364	26,098,364	26,098,364	26,098,364	26,098,364	26,098,364	26,098,364	26,098,364
Retained earnings		9,457,709	25,852,373	47,840,736	75,663,109	110,714,565	152,965,062	200,465,874	253,448,841	312,464,357	379,199,160
Total Equity	26,098,364	35,556,073	51,950,737	73,939,101	101,761,473	136,812,929	179,063,426	226,564,239	279,547,205	338,562,722	405,297,524
TOTAL CAPITAL AND LIABILITIES	52,196,729	64,664,880	68,859,250	87,357,987	113,316,126	146,239,628	189,879,692	238,417,243	292,540,616	352,810,574	418,707,604

12.3 Cash Flow Statement

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		9,457,709	16,394,664	21,988,364	27,822,373	35,051,456	42,250,497	47,500,812	52,982,966	59,015,517	66,734,802
Add: depreciation expense		1,500,895	1,500,895	1,500,895	1,500,895	1,500,895	1,802,004	1,802,004	1,802,004	1,802,004	1,802,004
amortization of pre-operating costs		444,400	444,400	444,400	444,400	444,400	-	-	-	-	-
amortization of training costs		10,000	10,000	10,000	10,000	10,000	-	-	-	-	-
Accounts receivable		(7,340,550)	(758,779)	(1,527,023)	(1,645,847)	(1,878,752)	(2,141,781)	(1,974,191)	(1,738,584)	(1,900,551)	(2,090,606)
Finished goods inventory		(3,797,545)	(495,407)	(698,071)	(793,925)	(902,144)	(1,024,244)	(722,153)	(809,209)	(890,087)	(979,051)
Equipment inventory	(38,211)	(1,911)	(2,006)	(2,106)	(2,212)	(2,322)	(2,438)	(2,560)	(2,688)	(2,823)	(2,964)
Raw material inventory potato	(12,600,000)	(2,250,000)	(2,574,000)	(2,940,300)	(3,354,120)	(3,821,301)	(2,753,972)	(3,029,369)	(3,332,306)	(3,665,537)	40,320,906
Raw material inventory (others)	(6,239,038)	(1,043,441)	(1,186,912)	(1,349,114)	(1,532,359)	(1,739,232)	(1,219,491)	(1,341,440)	(1,475,584)	(1,623,143)	18,749,754
Cold Storage rental	(5,355,000)	(956,250)	(1,093,950)	(1,249,628)	(1,425,501)	(1,624,053)	(1,170,438)	(1,287,482)	(1,416,230)	(1,557,853)	17,136,385
Raw material transport cost	(189,000)	(33,750)	(38,610)	(44,105)	(50,312)	(57,320)	(41,310)	(45,441)	(49,985)	(54,983)	604,814
Advance insurance premium	-	-	-	-	-	-	-	-	-	-	-
Accounts payable		5,124,025	875,521	997,976	1,136,404	1,292,772	1,389,567	1,036,739	1,140,407	1,254,441	(837,772)
Cash provided by operations	(24,421,249)	1,113,582	13,075,815	17,131,288	22,109,797	28,274,399	37,088,394	41,936,920	47,100,791	52,376,985	141,438,272
<i>Financing activities</i>											
Project Loan - principal repayment		(2,025,345)	(2,308,893)	(2,632,138)	(3,000,637)	(3,420,727)	-	-	-	-	-
Working Capital Loan - principal repayment		(12,710,624)	-	-	-	-	-	-	-	-	-
Short term debt principal repayment		-	(12,622,387)	(1,855,465)	-	-	-	-	-	-	-
Additions to Project Loan	13,387,740	-	-	-	-	-	-	-	-	-	-
Additions to Working Capital Loan	12,710,624	-	-	-	-	-	-	-	-	-	-
Issuance of shares	26,098,364	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	52,196,729	(14,735,969)	(14,931,280)	(4,487,603)	(3,000,637)	(3,420,727)	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(26,775,480)	-	-	-	-	(3,599,651)	-	-	-	-	(1,877,870)
Cash (used for) / provided by investing activities	(26,775,480)	-	-	-	-	(3,599,651)	-	-	-	-	(1,877,870)
NET CASH	1,000,000	(13,622,387)	(1,855,465)	12,643,685	19,109,160	21,254,022	37,088,394	41,936,920	47,100,791	52,376,985	139,560,402

13 KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Description	Details
Hours operational per day	8
Days operational per month	25
Days operational per year	300

13.2 Production Assumptions

Description	Details
Annual Production Capacity (Kgs)	360,000
Capacity Utilization (1 st Year)	70%
Capacity Growth Rate (Yearly)	05%
Maximum Capacity Utilization	95%
First Year Utilized Production (Kgs)	252,000

13.3 Financial Assumptions

Description	Details
Project Life (Years)	10
Debt: Equity	50:50
Interest Rate On Long Term Debt	14%

13.4 Economic Assumptions

Electricity Growth Rate	10%
Wages Growth Rate	10%
Machine Maintenance Growth Rate	5%

13.5 Cash Flow Assumptions

Accounts Receivable Cycle (In Days)	15
Accounts Payable Cycle (In Days)	15
Raw Material Inventory For Potatoes (In Days)	150
Raw Material Inventory – Other Material (In Days)	30

Finished Goods Inventory (In Days)	10
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13.6 Process Assumption

Description	Extraction of Product
Potato Chips	20%
Burnt Chips & Under-fried	55%
Chura Chips	25%

13.7 Raw Material Assumptions

Description	Rs.
Potatoes Per Kg	20.00
Frying Oil Per Liters	130.00
Flavor Per Kg (Salt)	10.00
Flavor Per Kg (Others)	200.00
Cold Storage Rent Per Kg	8.50
Transportation Cost Per Kg	3.00

13.8 Expense Assumptions

Professional Fees (Audit, Legal Etc.)	0.5% Of Revenue
Office Expenses (Stationery, Entertainment, Etc.)	5% Of Total Administrative Costs
Promotional Expenses	0.3% Of Revenue

13.9 Depreciation Rates

Depreciation Method	Straight Line
Building & Infrastructure	5%
Machinery & Equipment	10%
Furniture & Fixtures	10%

13.10 Product Average Sale Price

Size	Price (Rs)
20 gram Packet	10
50 gram Packet	20
120 gram Packet	50