Pre-feasibility Study

PRODUCTION UNIT FOR FROZEN FOOD PRODUCTS

November 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, andrevenues 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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2. EXECUTIVE SUMMARY

Food preservation is the process of storing food for a longer period of time while maintaining its texture, flavor and nutritional value. The practice of preserving food dates back to prehistoric times. The oldest methods of preservation are freezing, refrigeration and fermentation. Freezing is one of the easiest, quickest and most convenient methods of preserving foods. Properly frozen foods maintain more of their original color, flavor, texture and nutritional value than that by the foods preserved by other methods.

Recent changes in Pakistan's society are also impacting the food industry. Increasing share of urban population, an increasing number of working women and busy lifestyles are affecting people's behaviors and their daily routines; also including their eating habits. Convenience is quickly taking over as the most desired attribute of food in today's modern world; which is making frozen foods a preferred choice of the urban population. As a result of this trend, the frozen food industry has exhibited a high-rate growth over the past decade and this growth is expected to continue in the coming years. Pakistani population is closely following the trends of developed countries with respect to eating habits which means that the share of frozen food in the local meals is expected to increase in future.

Along with the convenience, the frozen food industry also offers the benefit of preserving different types of foods items to be used during off seasons. This is especially relevant for fruits and vegetables where lack of such facilities lead to incurring huge post-harvest losses for the farmers.

Frozen food includes a large variety of the food products that can be stored in low temperature over long periods of time. Popular frozen food product categories include frozen ready-to-cook foods, ready-to-eat meals, fruits & vegetables and meat & poultry.

The proposed unit has been based on producing ready-to-cook products; including Paratha, Chicken Nuggets, Chicken Samosa, Beef Chapli Kebabs, Chicken Rolls, Chicken Patties and Chicken Fillet.

This "Pre-feasibility Document" provides details for setting up a "Production Unit for Frozen Food Products". This unit may be established in large to medium cities like Karachi, Lahore, Islamabad, Peshawar, Quetta, Faisalabad, Multan, Hyderabad, Rawalpindi, Bahawalpur, Mardan, Muzaffarabad, Gilgit, Sargodha, Sukkur, Sialkot, Gujranwala, etc. These cities have been proposed due to presence of large urban populations and availability of skilled and low-cost labor. Moreover, industrial infrastructure for establishing this business is also available in such large cities.

The production unit will be set up in a rented building with an area of 4,500 square feet. The project requires a total investment of PKR 31.72 million. This includes capital investment of PKR 27.90 million and working capital of PKR 3.82 million. It is proposed that the project shall be financed through 100% equity. The Net Present Value (NPV) of project is PKR 92.39 million with an Internal Rate of Return (IRR) of

46% and a Payback period of 3.02 years. Further, this project is expected to generate Gross Annual Revenues of PKR 104.55 million during 1st year, Gross Profit (GP) ratio ranging from 37% to 45% and Net Profit (NP) ratio ranging from 5% to 14% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 41% (181,887 packs) with annual breakeven revenue of PKR 85.89 million.

The proposed project may also be established using leveraged financing. At 50% financing at a cost of KIBOR+3%, the proposed business provides Net Present Value (NPV) of PKR 107.63 million, Internal Rate of Return (IRR) of 46% and Payback period of 3 years. Further, this project is expected to generate Net Profit (NP) ratio ranging from 3% to 16% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 44% (193,677 packs) with breakeven revenue of PKR 91.45 million.

The proposed project will provide employment opportunities to 46 people, working in 1 shift of 8 hours during 280 days in a year. High return on investment and steady growth of business is expected with the entrepreneur having some prior experience or education in the related field of business. The legal business status of this project is proposed as “Company”.

3. INTRODUCTION TO SMEDA

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

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

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

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

National Business Development Program for SMEs (NBDP) is a project of SMEDA, funded through Public Sector Development Program of Government of Pakistan.

The NBDP envisages provision of handholding support / business development services to SMEs to promote business startup, improvement of efficiencies in existing SME value chains to make them globally competitive and provide conducive business environment through evidence-based policy-assistance to the Government of Pakistan. The Project is objectively designed to support SMEDA's capacity of providing an effective handholding to SMEs. The proposed program aimed at facilitating around 314,000 SME beneficiaries over a period of five years.

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 setting up a "Production Unit for Frozen Food Products" by providing a general understanding of the business with the intention of supporting them in 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 setup and its successful management.

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

5. BRIEF DESCRIPTION OF PROJECT & PRODUCTS

Freezing is a widely used long-term preservation method for foods, where the food retains its attributes associated with freshness much better than other conventional preservation methods like canning or drying. Frozen food is considered to be a key sector of the local food industry. Frozen food businesses produce ready-to-eat meals or ready-to-cook meals by different methods such as, Individual Quick Freezing (ICQ), blast freezing, belt freezing or other freezing techniques.

Frozen foods have longer shelf life and hence can be preserved for a longer time without their taste and nutrients getting affected. Popular frozen food product categories include frozen ready-to-cook foods, ready-to-eat meals, fruits & vegetables and meat & poultry.

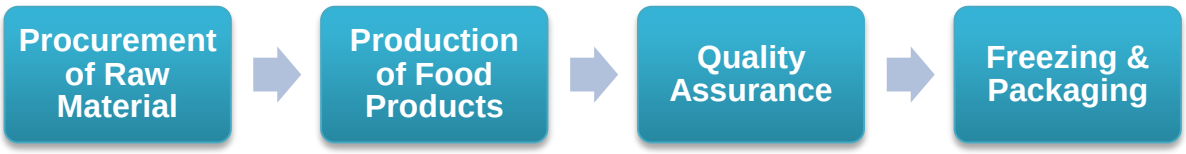
Frozen food is convenient for the people who have a lifestyle that makes it difficult for them to cook at home. This is especially very relevant for working families. Frozen ready meals are a convenient alternative to cooking and are increasingly preferred by the growing working population in the country. Robust demand for convenience food in Pakistan has increased, due to major factors, such as growing urbanization, time-pressed schedules, and women joining the workforce.

Meals are frozen by techniques like contact freezing, cryogenic freezing and individual quick freezing (IQF). The proposed project uses the IQF technique. Depending on their moisture content, most frozen foods can expand by as much as 9%. The frozen food packaging needs to accommodate these changes. In the proposed project, polyethylene (PE) film will be used for packaging, as it offers a high level of durability, puncture resistance, and shelf life.

The frozen food products must be stored at low temperatures to prevent it from spoilage. The frozen food processing facilities need to ensure power backup, whether by a UPS or a generator so that in case of a power outage, the food is not affected. Furthermore, vehicles with frozen food storage facilities will also be needed for the purpose of transportation of frozen food products.

The proposed unit has been based on producing ready-to-cook products; including Parathas, Chicken Nuggets, Chicken Samosas, Beef Chapli Kebabs, Chicken Rolls, Chicken Patties and Chicken Fillets.

5.1. Process Flow



Procurement of Raw Material

For producing the selected frozen food products, the required raw materials include chicken, beef, wheat flour, corn flour, potatoes, cooking oil, bread, eggs, salt, black pepper, red pepper, garlic, onion, green chilies, vinegar, ginger, coriander seeds, cumin seeds, carom seeds, salt and pomegranate powder. Chicken and wheat flour are the main ingredients for the production of these products.

These raw materials can be easily purchased locally from large number of suppliers from all parts of the country.

Production of Food Products

In the proposed Production Unit for Frozen Food products, following products are produced:

- Paratha
- Chicken Nuggets
- Chicken Samosa
- Beef Chapli Kababs
- Chicken Rolls
- Chicken Patties
- Chicken Fillet
- **Paratha**

Figure 1 and Figure 2 respectively show the production process and the required machinery for producing parathas.

Figure 1: Production Process – Paratha

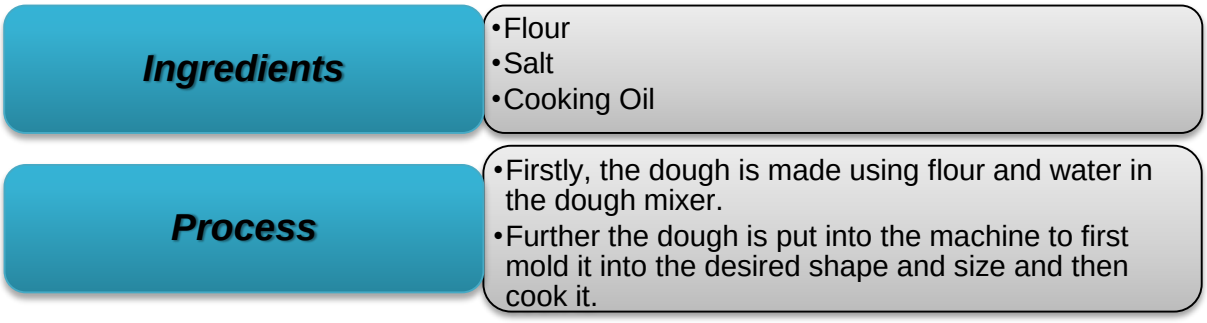
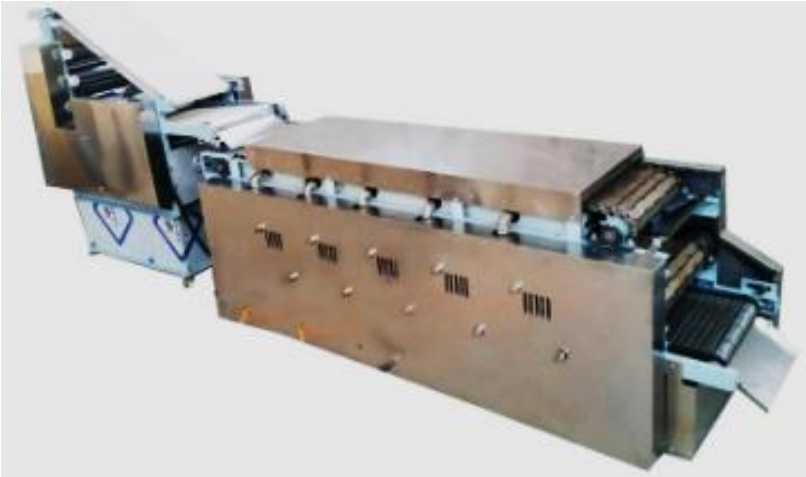


Figure 2: Paratha Making Machine



- **Chicken Nuggets**

Figure 3 and Figure 4 respectively show the production process and the required machinery for making chicken nuggets.

Figure 3: Production Process – Chicken Nuggets

Ingredients	•Boneless Chicken •Bread and Bread Crumbs •Eggs •Milk •Black Pepper •Salt •Cooking Oil
Process	•A mixture is made in the mixing machine in the production line by mixing together the boneless chicken, bread, milk, black pepper, salt and cooking oil. •That mixture is molded into the specific shape and size. •It is then coated with egg and bread crumbs.

Figure 4: Chicken Nuggets Production Line

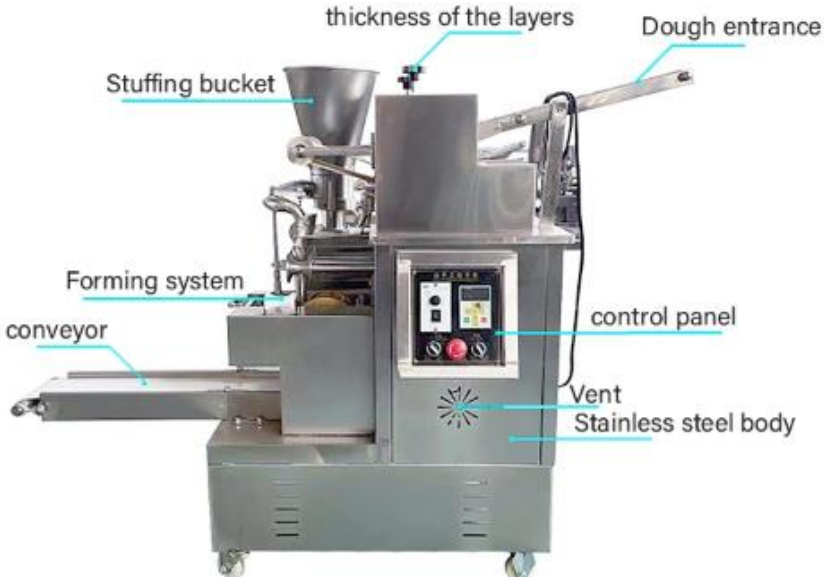
- **Chicken Samosa**

Figure 5 and Figure 6 respectively show the production process and the required machinery for making chicken samosas.

Figure 5: Production Process – Chicken Samosa

Ingredients	•Refined Wheat flour •Minced Chicken •Cooking oil •Onion, Garlic •Salt, Black pepper, Red pepper •Vinegar •Soy/Chilli Sauce
Process	•A mixture is formed using minced chicken, chopped onions, salt, garlic, cooking oil, black and red pepper, vinegar and soy or chilli sauce and is then put into the stuffing bucket. •The dough for samosa strips are made from refined wheat flour, water and salt. The strips are then molded into a triangular shape and filled with the mixture.

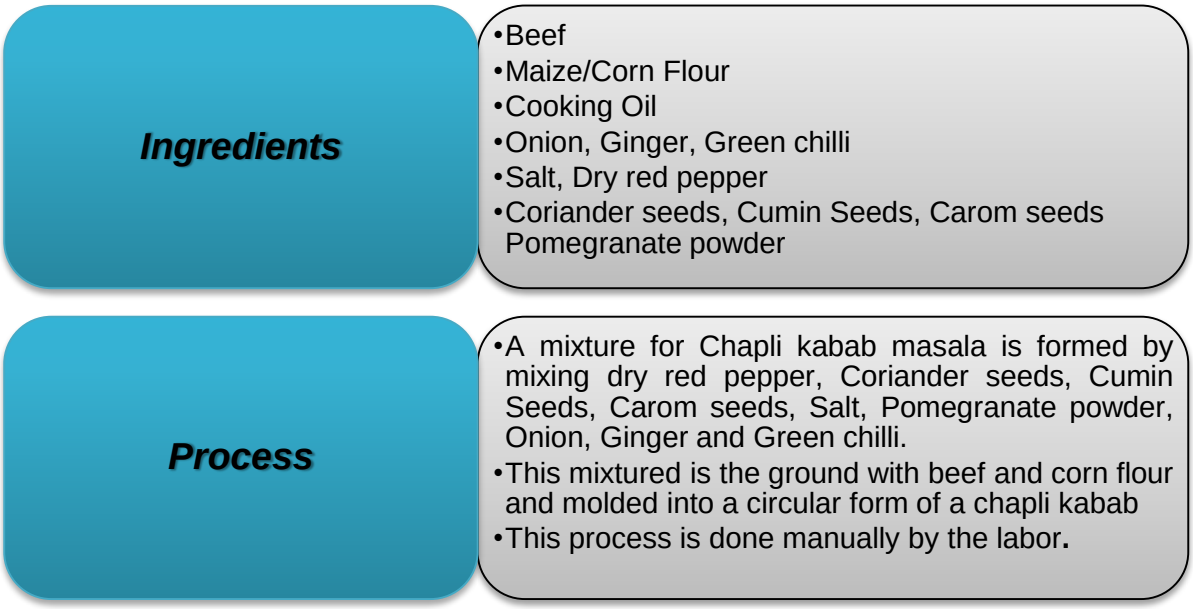
Figure 6: Samosa Making Machine



- **Beef Chapli Kebab**

Figure 7 shows the production process for making beef Chapli Kebab.

Figure 7: Production Process – Beef Chapli Kebab



- **Chicken Rolls**

Figure 8 and Figure 9 respectively show the production process and required machinery. The machine for making rolls is the same as the samosa making machine as their process and recipe are similar. Only the die will be different which will be roll shaped in this case.

Figure 8: Production Process – Chicken Rolls

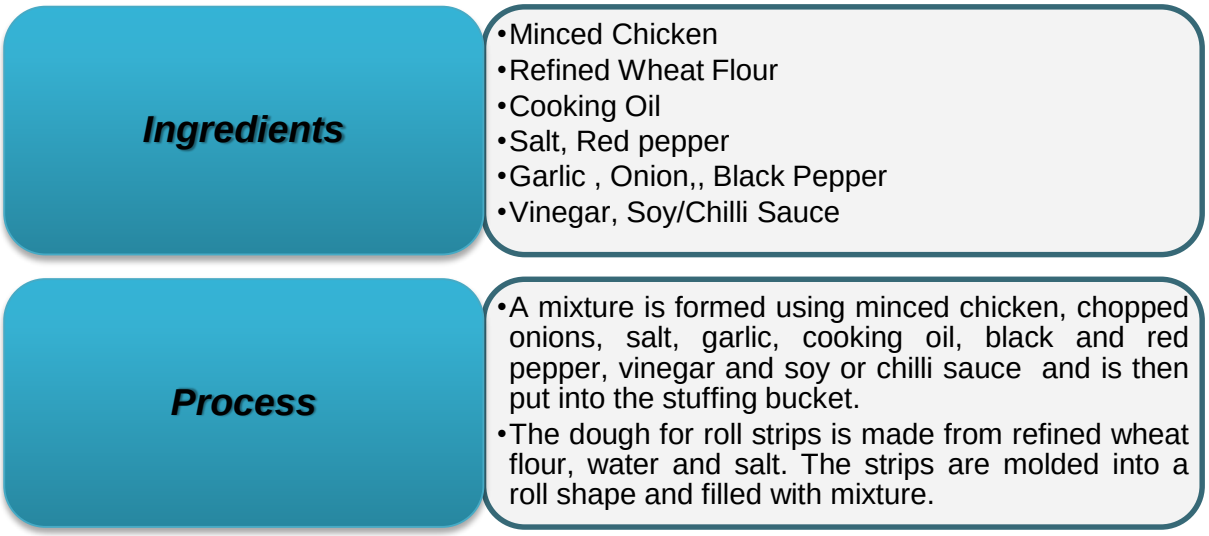
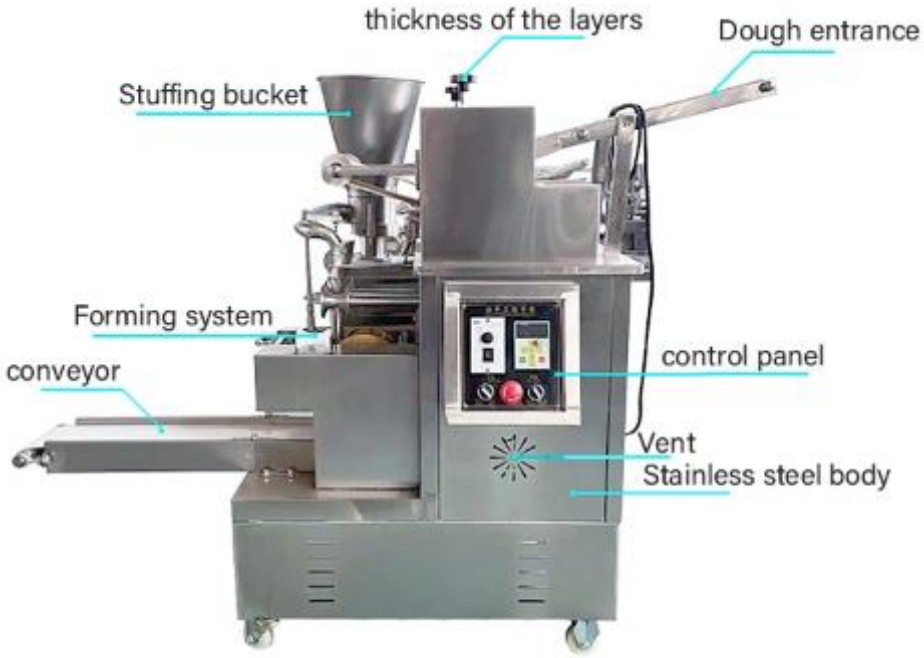


Figure 9: Roll Making Machine



- **Chicken Patties**

Figure 10 and Figure 11 respectively show the production process and required machinery.

Figure 10: Production Process – Chicken Patties

Ingredients	•Minced Chicken •Puff Pastry Dough •Cooking Oil •Salt, Black Pepper •Mustard Powder,Onion •Egg,Milk
Process	•A mixture is formed in the machine using minced chicken, chopped onions, mustard powder, salt, cooking oil and black pepper. •The final round shaped patty comes out of the machine as a final product.

Figure 11: Chicken Patties Making Machine

- **Chicken Fillet**

Figure 12 and Figure 13 respectively show the production process and the required machinery.

Figure 12: Chicken Fillet – Production Process

Ingredients	•Boneless Chicken •Bread Crumbs, Corn Starch •Paprika, Parsley Leaves •Cooking Oil, Water •Lemon, Salt, Black Pepper •Garlic Powder, Onion •Egg, Milk
Process	•A mixture is formed using using the ingredients above and put into the machine for processing. •The end product comes out as a circular shape of chicken fillets.

Figure 13: Chicken Fillet Production Machine

Quality Assurance

The quality controller ensures the quality of the products by checking the appearance and sizes of the products and ensures that the products get frozen and stored at the required temperature.

Freezing

The freezing process involves two stages:

- Freezing
- Frozen storage

In the proposed frozen food production unit, chilling System is used for freezing and packaging. The Chilling System has two parts; an Individual Quick Freeze (IQF) system and a Cold Storage Room. IQF is a freezing process performed by blast freezers. It is a form of freezing in which multiple products are frozen in the same area, but each and every product is individually frozen. This ensures that the frozen products do not stick to one another and maintain their shape and size before use. IQF is also referred to as flash freezing, quick freeze, or super freeze.

The food products are placed in trays on meshed conveyor belt in such a way that their edges do not touch each other to ensure that the products do not stick together after being frozen.

This machine generates a strong cold wind vapor flow, and a unique air guiding device in it reasonably distributes the airflow. This makes the product fully exposed to strong cold wind. The lower part of the mesh belt is provided with an independent pulse vibration device, so that the small holes of the mesh belt are not blocked by frost, so that the air flow is smooth.

Essentially, the faster the food is frozen the better the quality it retains. When food is frozen slowly, ice crystals form. Big ice crystals typically dry out the food and impact the overall taste and flavor. To avoid this, flash freezing or IQF is preferred. Figure 14 shows an IQF Blast Freezer whereas Figure 15 shows the internal structure of an IQF blast freezer depicting its working principle.

Figure 14: IQF Blast Freezer

Figure 15: Working Principle of IQF Blast Freezer

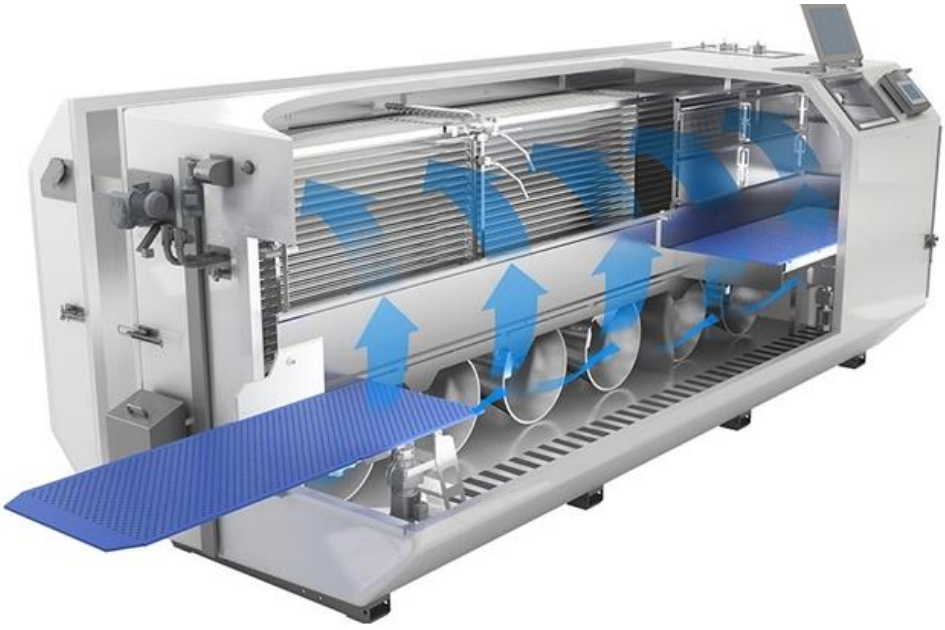


Figure 16 shows meat products at the inlet of an IQF blast freezer; being fed for freezing.

Figure 16: Meat Products Being Fed into IQF Blast Freezer

Figure 17 shows the frozen food products.

Figure 17: Frozen Food Products

Frozen Samosas

Frozen Rolls

Frozen Parathas

Frozen Patties

Frozen Nuggets

Packing

Once the products have frozen after passing through the freezer, they need to be immediately packed. For each frozen food product, packs of two different weights and quantities are produced in the proposed unit. Post-packaging, the frozen food products are transferred to the cold storage room. The temperature ranges from minus 10 to minus 15 degree centigrade, depending on the type of food stored.

5.2. Installed and Operational Capacities

The proposed production unit will run 8 hours a day for 280 days in a year. For each frozen food product, two packs of different weights will be produced in the proposed unit. The details of maximum annual capacity and operational capacity utilized during first year of operations have been shown in Table 1 to Table 2. The proposed project will have 50% capacity utilization in the initial year of its operations. It has been further assumed that the operational capacity of the unit will increase at the rate of 5% per annum and will reach at 90% of its total capacity during the projected period of 10 years.

Table 1: Production Capacity

Products	Machine Production Capacity (kg/hour)	Production Capacity (kg/day)	Annual Production Capacity (kg)	Weight / Piece (kg)	Annual Capacity (Pieces)
Paratha	40	280	78,400	0.150	522,667
Chicken Nuggets	20	140	39,200	0.040	980,000
Chicken Samosa	15	105	29,400	0.040	735,000
Beef Chapli Kebab	20	140	39,200	0.075	522,667
Chicken Rolls	20	140	39,200	0.045	871,111
Chicken Patties	30	210	58,800	0.070	840,000
Chicken Fillet	40	280	78,400	0.050	1,568,000

Table 2:Operational Capacity

Products	Annual Production (kg)	Ratio	Pieces Available for Packing	Per Pack Units	Per Pack Weight (KGs)	Annual Production Capacity (Packs)	Initial Year Capacity Utilization (Packs)
Formula	*A*	*B*	*C=A*B*	*D*	*E=D*(Weight per unit)*	*F=C/D*	*G=F*60%*
Paratha							
Pack - 1 (6 pieces)	522,667	50%	261,334	6	0.90	43,556	21,778
Pack - 2 (12 pieces)		50%	261,334	12	1.80	21,778	10,889
Chicken Nuggets							
Pack - 1 (12 pieces)	980,000	50%	490,000	12	0.48	40,833	20,417
Pack - 2 (24 pieces)		50%	490,000	24	0.96	20,417	10,209

Chicken Samosa							
Pack - 1 (12 pieces)	735,000	50%	367,500	12	0.48	30,625	15,313
Pack - 2 (24 pieces)		50%	367,500	24	0.96	15,313	7,657
Beef Chapli Kebab							
Pack - 1 (6 pieces)	522,667	50%	261,334	6	0.24	43,556	21,778
Pack - 2 (12 pieces)		50%	261,334	12	0.48	21,778	10,889
Chicken Rolls							
Pack - 1 (12 pieces)	871,111	50%	435,556	12	0.48	36,296	18,148
Pack - 2 (24 pieces)		50%	435,556	24	0.96	18,148	9,074
Chicken Patties							
Pack - 1 (12 pieces)	840,000	50%	420,000	12	0.84	35,000	17,500
Pack - 2 (24 pieces)		50%	420,000	24	1.68	17,500	8,750
Chicken Fillet							
Pack - 1 (12 pieces)	1,568,000	50%	784,000	12	0.60	65,333	32,667
Pack - 2 (24 pieces)		50%	784,000	24	1.20	32,667	16,334

6. CRITICAL FACTORS

Before making the decision to make investment in the proposed business, one should carefully analyze the associated risk factors. The important considerations in this regard include:

- Hiring of trained labor
- Use of modern technology
- Strict compliance to hygiene standards
- Use of food grade packing
- Variety of products
- Increased shelf life of products

7. GEOGRAPHICAL POTENTIAL FOR INVESTMENT

The proposed unit has potential to provide good entrepreneurship opportunity if the business is established in metropolitan cities of Pakistan. These include Karachi, Lahore, Islamabad, Peshawar and Quetta. Other large cities like Gujranwala, Faisalabad, Hyderabad, Rawalpindi, Multan, Gilgit, Bahawalpur, Muzaffarabad, Sargodha, Sukkur, Mardan, etc. are also suitable locations to establish the proposed unit due to easy availability of low-cost labor. Other reasons of proposing large cities for setting up of this business are the large urban populations, presence of strong distribution channels and industrial infrastructure.

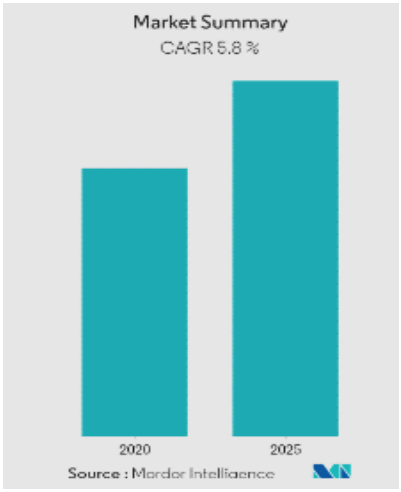
8. POTENTIAL TARGET MARKETS

Frozen food market comprises of retail as well as business customers. Retail consumers of frozen food are individuals and households, whereas the business consumers include hotel chains, fast food outlets, caterers, and other business buyers. Retail customers prefer cooked and semi-cooked ready-to-eat food, meat, and soups. On the contrary, business customers mostly use ready-to-cook foods; such as frozen meat, seafood, frozen pizza crust, bread, frozen dough, potatoes and vegetables as their ingredients for preparing food for end consumers.

Currently, the global frozen food market is estimated at around $232.42 billion and is expected to reach $376.95 billion by 2025, at a compounded annual growth rate (CAGR) of 4.3%.[1] Pakistan's frozen food market is growing at a CAGR of 5.8% during the forecast period (2020-2025) as shown in Figure 18.[2]

[1] https://cablevey.com/a-guide-to-frozen-food-processing-and-packaging/
[2] https://www.mordorintelligence.com/industry-reports/pakistan-frozen-food-market

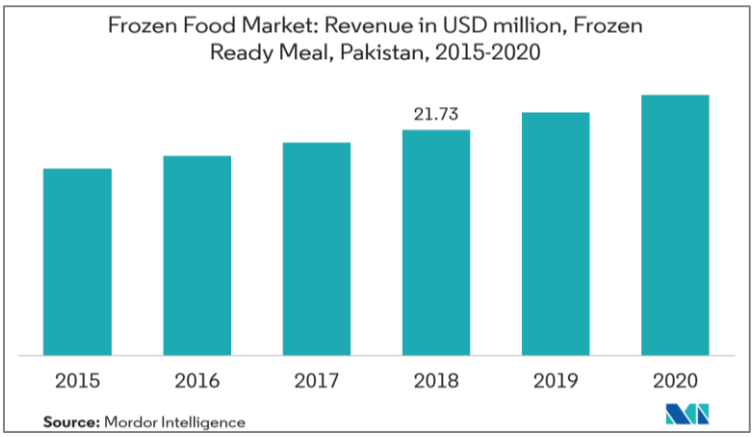
Figure 18: Pakistan's Frozen Food Market Projection



The market is primarily driven by the convenience factor and a rising demand for animal-based products, such as kebabs, parathas, meatballs, sausages, etc. Lack of infrastructure, in terms of efficient cold chain and retail-level inefficiencies, is considered as a major hurdle for the frozen food industry in Pakistan.

Retail marketing of packaged foods is gradually transforming from a large number of convenience stores or grocery stores to supermarkets/hypermarkets. The modern retail channels, with the wide availability of products across regional/global brands, have gained popularity. These superstores have facilitated the process of distribution, easing out the process of multi-channel marketing for frozen foods. Another perk associated with frozen meals is that they are free from microbial attacks, which makes them an attractive alternative for the consumers. Figure 19 shows the revenue trend of Pakistan's Frozen Food Market from 2025-2020.

Figure 19: Pakistani Frozen Food Market Revenue



The frozen food market in Pakistan is primarily driven by the rising demand for animal-based products, such as kebabs, parathas, nuggets, rolls, etc. K&N's, Sabroso, Menu Foods, Big Bird, Dawn Foods and PK Meat & Food Company are some major players active in the frozen food market in Pakistan.

Large to medium units have modern machinery and automated plants but the smaller units lack modern manufacturing practices. Larger units have their own retail outlets whereas small and micro units are mostly involved in the direct sales to the existing retail outlets.

9. PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of the production unit. Various assumptions relevant to revenue and costs along with the results of the analysis are outlined in this section.

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

All the figures in this financial model have been calculated after carefully taking into account the relevant assumptions and target market.

9.1. Initial Project Cost

Table 3 provides fixed and working capital requirements for establishment and operations of the business.

Table 3: Initial Project Cost estimates

Particulars	Cost (PKR)	Reference
Land	-	9.1.1
Building / Infrastructure	1,364,380	9.1.2
Machinery & equipment	14,600,000	9.1.3
Office equipment	3,693,000	9.1.4
Furniture & Fixtures	1,070,000	9.1.5
Office vehicles	5,606,800	9.1.6
Pre-operating costs	753,999	9.1.7
Security Against Building	810,000	9.1.8
Total Capital Cost – (A)	**27,898,179**	
Equipment spare part inventory	121,667	
Raw Material Inventory	2,067,164	
Upfront building rent	270,000	
Upfront insurance payment	359,170	
Cash	1,000,000	
Working Capital Requirement - (B)	**3,818,001**	
Total Project Cost - (A+B)	**31,716,180**	

9.1.1. Land

The production unit will be established in a rented building to avoid the high cost of land. Suitable locations for setting up a manufacturing business like this can be easily available on rent. Therefore, no land cost has been added to the project cost. Total space requirement for the proposed unit has been estimated as 4,500 sq. ft. The breakup of the space requirement is provided in Table 4.

Table 4: Breakup of Space Requirement

Particulars	Area %	Area (sq ft)
Raw Material Store Room	11%	500
Production Department	47%	2,100
Cold Storage Room	17%	750
Executive Office	3%	150
HR and Admin Department	3%	150
Accounts Department	3%	150
Procurement Department	3%	150
Sales and Marketing Department	8%	375
Washrooms	4%	175
Total	**100%**	**4,500**

9.1.2. Building

There will be no cost of building since the unit will be started in a rented premises. However, there will be a renovation cost; required to make the building usable for the business. The proposed project requires electricity load of 61 KW for which an electricity connection under the General Supply Tariff-Commercial three phase will be required. Building rent of PKR 270,000 per month has been included in the operating cost. Building renovation cost is shown in Table 5.

Table 5: Building Renovation Cost

Cost Item	Unit of Measurement	Total Units	Cost/Unit (PKR)	Total Cost (PKR)
Paint Cost	Liter	107	500	53,460
Labour Cost- Paint	Sq. Feet	10,692	10	106,920
Tiles Cost	Sq. Feet	1,150	120	138,000
Labour Cost- Tiles	Sq. Feet	1,150	40	46,000
Wall Racks	No.	15	15,000	225,000
Glass Partition	Sq. Feet	1,260	550	693,000
Curtains	No.	12	6,000	72,000

Blinds	No.	6	5,000	30,000
TOTAL (PKR)				**1,364,380**

9.1.3. Machinery and Equipment

Table 6 provides details of machinery and equipment for the proposed project.

Table 6: Machinery Cost Details

Cost Item	Number of Items	Unit Cost (PKR)	Total Cost (PKR)
Complete Production line - Paratha	1	550,000	550,000
Complete Production line - Chicken Nuggets	1	700,000	700,000
Complete Production line - Chicken Samosa	1	450,000	450,000
Complete Production line - Chicken Rolls	1	450,000	450,000
Complete Production line - Chicken Patties	1	700,000	700,000
Complete Production line - Chicken Fillet	1	800,000	800,000
Cold Storage (Capacity: 2000Kg/day)	1	7,500,000	7,500,000
IQF Tunnel Freezer Freezing Machine (300 kg/hour)	1	2,000,000	2,000,000
Packing Machine	1	1,000,000	1,000,000
Material Handling Trolleys	4	20,000	80,000
Weighing Scale	1	40,000	40,000
Mechanical Tool Kits	3	30,000	90,000
Electrical Tool Kits	10	20,000	200,000
Plastic Baskets- For Raw Material Handling	40	1,000	40,000
Total			**14,600,000**

Table 7: Cold Storage

Cost Item	Number of Items	Unit Cost (PKR)	Total Cost (PKR)
Chilling System System 380V,50Hz (**Table 8**)	1	2,800,000	2,800,000
Cold Storage Room (Insulation Polyurethene 5' Thickness) (**Table 9**)	1	4,700,000	4,700,000
Total			**7,500,000**

Table 8: Chilling System

Particulars	Number of	Unit Cost	Total Cost

	Items	(PKR)	(PKR)
Air Cooled Condensing Unit	2	1,000,000	2,000,000
Evaporator Unit Cooler	2	225,000	450,000
Installation	2	175,000	350,000
Total			**2,800,000**

Table 9: Cold Storage Room

Particulars	Unit of Measurement	No.	Cost per Unit	Total Cost(PKR)
Polyurethane Sandwich Panel	Number	1	2,700,000	2,700,000
Assembling of Panel, filling and caulking of silicon	Number	1	400,000	400,000
Supply and Installation of Sliding Doors and Frame	Number	1	100,000	100,000
Civil Works	Sq. Feet	750	2,000	1,500,000
Total				**4,700,000**

9.1.4. Office Equipment

Table 10 shows details of equipment cost required for the production unit.

Table 10: Equipment Cost Details

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Laptop	6	90,000	540,000
Desktop Computer	9	40,000	360,000
1.5 ton Inverter AC	8	90,000	720,000
Ceiling Fan	17	6,000	102,000
Pedestal Fan	5	6,000	30,000
Bracket Fan	10	5,000	50,000
Water Dispenser	2	20,000	40,000
Laser Printer	1	40,000	40,000
CCTV Cameras	16	2,000	32,000
DVR	2	12,000	24,000
WI-FI/ Internet Connection	1	5,000	5,000
UPS	1	250,000	250,000

Generator (50KW)	1	1,500,000	1,500,000
Total			**3,693,000**

9.1.5. Furniture and Fixture

Table 11 provides details of furniture and fixtures.

Table 11: Furniture & Fixtures Cost Details

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Executive Chairs	8	20,000	160,000
Executive Table	8	35,000	280,000
Office Chairs	14	10,000	140,000
Office Table	12	25,000	300,000
Extra / Visiting Chairs	12	10,000	120,000
Sofa Sets	2	35,000	70,000
Total			**1,070,000**

9.1.6. Vehicles

Table 12 provides details of the vehicles required along with their cost for the proposed project.

Table 12: Office Vehicle Cost Details

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Mini Truck (2771 cc)	1	3,400,000	3,400,000
Registration Charges		4%	136,000
Insulated Container (14'x6.16'X6.83')	1	1,740,000	1,740,000
Loader Rickshaw (150 CC)	1	250,000	250,000
Motorcycle	1	80,000	80,000
Registration fee- Motor Cycle		1%	800
Total			**5,606,800**

9.1.7. Pre-Operating Costs

Table 13 provides details of estimated pre-operating costs.

Table 13: Pre-Operating Cost Details

Costs Item	Cost (PKR)
Administration expense	534,000

Utilities expense	219,999
Total Cost (PKR)	**753,999**

9.1.8. Security against Building

Table 14 provides details of security against rented building.

Table 14: Security against Building Details

Cost item	Unit	No.	Unit Cost (PKR)	Cost (PKR)
Security against Building Rent	Months	3	270,000	810,000
Total Cost (PKR)				**810,000**

9.2. Breakeven Analysis

Table 15 shows calculation of break-even analysis.

Table 15: Breakeven Analysis

Description	First Year Values (PKR)	Ratios
Sales (PKR) – A	104,546,890	100%
Variable Cost (PKR) – B	69,196,615	66%
Contribution (PKR) (A-B) = C	35,350,275	34%
Fixed Cost (PKR) – D	29,041,026	28%
Breakeven		
Breakeven Revenue (PKR)	85,887,561	
Breakeven (No. of Packs)	181,887	
Breakeven Capacity	41%	

9.3. Revenue Generation

Table 16 provides details for revenue generation of the production during the first year of operations.

Table 16: Revenue Details

Products	Quantity Sold (Packs) (A)	Price Per Pack (PKR) (B)	Total Revenue (PKR) (A*B)
Paratha			
Pack - 1 (6 pieces)	21,324	110	2,345,640
Pack - 2 (12 pieces)	10,662	250	2,665,500
Chicken Nuggets			

Pack - 1 (12 pieces)	19,992	350	6,997,200
Pack - 2 (24 pieces)	9,996	650	6,497,400
Chicken Samosa			
Pack - 1 (12 pieces)	14,994	350	5,247,900
Pack - 2 (24 pieces)	7,497	650	4,873,050
Beef Chapli Kebab			
Pack - 1 (6 pieces)	21,324	250	5,331,000
Pack - 2 (12 pieces)	10,662	500	5,331,000
Chicken Rolls			
Pack - 1 (12 pieces)	17,770	350	6,219,500
Pack - 2 (24 pieces)	8,885	650	5,775,250
Chicken Patties			
Pack - 1 (12 pieces)	17,135	750	12,851,250
Pack - 2 (24 pieces)	8,568	1,450	12,423,600
Chicken Fillet			
Pack - 1 (12 pieces)	31,986	450	14,393,700
Pack - 2 (24 pieces)	15,994	850	13,594,900
Total (PKR)	**216,789**		**104,546,890**

9.4. Variable Cost Estimate

Variable costs of the project have been provided in Table 17.

Table 17: Variable Cost Estimate

Description of Costs	Amount (PKR)
Total Material Cost (**Table 18**)	49,611,945
Packing Material Cost (**Table 26**)	1,135,325
Electricity Cost	2,663,985
Direct Salaries	11,760,000
Machinery Maintenance – Cost	1,460,000
Travelling expense	610,800
Communications expense (phone, mail, internet, etc.)	610,800
Office vehicles running expense	610,800
Office expenses (stationery, entertainment, janitorial services, etc.)	732,960
Total Cost (PKR)	**69,196,615**

Table 18: Material Cost[3]

Products	Production for the Year (Packs) (A)	Cost Per Pack (PKR) (B)	Total Cost (PKR) (A*B)	Reference
Paratha				
Pack - 1 (6 pieces)	21,778	53.28	1,160,332	Table 19
Pack - 2 (12 pieces)	10,889	106.56	1,160,332	
Chicken Nuggets				
Pack - 1 (12 pieces)	20,417	159.00	3,246,303	Table 20
Pack - 2 (24 pieces)	10,209	318.00	3,246,462	
Chicken Samosa				
Pack - 1 (12 pieces)	15,313	150.86	2,310,180	Table 21
Pack - 2 (24 pieces)	7,657	301.73	2,310,331	
Beef Chapli Kebab				
Pack - 1 (6 pieces)	21,778	119.78	2,608,656	Table 22
Pack - 2 (12 pieces)	10,889	239.57	2,608,656	
Chicken Rolls				
Pack - 1 (12 pieces)	18,148	153.26	2,781,435	Table 23
Pack - 2 (24 pieces)	9,074	306.53	2,781,435	
Chicken Patties				
Pack - 1 (12 pieces)	17,500	346.30	6,060,222	Table 24
Pack - 2 (24 pieces)	8,750	692.60	6,060,222	
Chicken Fillet				
Pack - 1 (12 pieces)	32,667	203.22	6,638,588	Table 25
Pack - 2 (24 pieces)	16,334	406.44	6,638,791	
Total Cost (PKR)	**221,403**		**49,611,945**	

[3] Any slight differences in total cost are due to rounding off of cost per pack to two decimal places.

Table 19: Material Cost - Paratha

Cost Items	Annual Input Material (Kgs)	Material Consumption Ratio	Material Consumption (KGs)	Cost / kg or ltr (PKR)	Annual Cost (PKR)	Pack - 1 (6 pieces) (PKR)	Pack - 2 (12 pieces) (PKR)
Recipe	*A*	*B*	*C=A*B*	*D*	*E=C*D*		
Wheat Flour	78,400	90%	70,560	55	3,880,800	*F=(E/A)*0.90 (Weight per Pack in kgs)*	*F=(E/A)*1.80 (Weight per Pack in kgs)*
Salt		0.5%	392	40	15,680		
Cooking Oil		2.5%	1,960	380	744,800		
Water		7%	5,488	-	-		
Total Raw Material Cost		**100%**	**78,400**		**4,641,280**	**53.28**	**106.56**
Packing						**3.60**	**4.80**
Total Material Cost						**56.88**	**111.36**

Table 20: Material Cost – Chicken Nuggets

Cost Items	Annual Input Material (Kgs)	Material Consumption Ratio	Material Consumption (KGs)	Cost / kg or ltr (PKR)	Annual Cost (PKR)	Pack - 1 (12 pieces) (PKR)	Pack - 2 (24 pieces) (PKR)
Recipe	*A*	*B*	*C=A*B*	*D*	*E=C*D*		
Boneless Chicken	39,200	65.0%	25,480	400	10,192,000	*F=(E/A)*0.48 (Weight per Pack in kgs)*	*F=(E/A)*0.96 (Weight per Pack in kgs)*
Bread		10.0%	3,920	130	509,600		
Bread		10.0%	3,920	180	705,600		

Crumbs							
Eggs[4]		3.0%	1,176	240	282,240		
Milk		4.5%	1,764	90	158,760		
Salt		0.5%	196	40	7,840		
Black Pepper		1.0%	392	600	235,200		
Cooking Oil		6.0%	2,352	380	893,760		
Total Raw Material Cost		**100%**	**39,200**		**12,985,000**	**159.00**	**318.00**
Packing						**4.80**	**7.20**
Total Material Cost						**163.80**	**325.20**

Table 21: Material Cost – Chicken Samosa

Cost Items	Annual Input Material (Kgs)	Material Consumption Ratio	Material Consumption (KGs)	Cost / kg or ltr (PKR)	Annual Cost (PKR)	Pack - 1 (12 pieces) (PKR)	Pack - 2 (24pieces) (PKR)
Recipe	*A*	*B*	*C=A*B*	*D*	*E=C*D*		
Minced Chicken	29,400	50.0%	14,700	450	6,615,000	*F=(E/A)*0.48 (Weight per Pack in kgs)*	
Refined Wheat flour (Maida)		22.0%	6,468	80	517,440	*F=(E/A)*0.96 (Weight per Pack in kgs)*	
Onion		5.0%	1,470	30	44,100		

[4] In the proposed production unit **eggs** will be purchased in bulk for 20 eggs for Rs 12 each.

Garlic		2.5%	735	300	220,500		
Black pepper		0.5%	147	600	88,200		
Red pepper		0.5%	147	800	117,600		
Vinegar		1.0%	294	150	44,100		
Soy Sauce		2.0%	588	300	176,400		
Cooking Oil		12.0%	3,528.0	400	1,411,200		
Salt		0.5%	147.0	40	5,880		
Water		4.0%	1,176		-		
Total Raw Material Cost		**100%**	**29,400**		**9,240,420**	**150.86**	**301.73**
Packing						**4.80**	**7.20**
Total Material Cost						**155.66**	**308.93**

Table 22: Material Cost – Beef Chapli Kabab

Cost Items	Annual Input Material (Kgs)	Material Consumption Ratio	Material Consumption (KGs)	Cost / kg or ltr (PKR)	Annual Cost (PKR)	Pack - 1 (6 pieces) (PKR)	Pack - 2 (12 pieces) (PKR)
Recipe	*A*	*B*	*C=A*B*	*D*	*E=C*D*		
Beef	39,200	70%	27,440	600	16,464,000	*F=(E/A)*0.24 (Weight per Pack in kgs)*	
Corn Flour		10%	3,920	150	588,000		
Red Pepper		2%	784	800	627,200	*F=(E/A)*0.48 (Weight per Pack in kgs)*	
Coriander		1%	392	500	196,000		

Seeds							
Cumin Seeds		1%	392	450	176,400		
Carom Seeds		1%	392	400	156,800		
Onion		3.0%	1,176	30	35,280		
Ginger		4.0%	1,568	270	423,360		
Pomegranate powder		1.0%	392.0	250	98,000		
Green Chilli		1.0%	392.0	100	39,200		
Cooking Oil		5.0%	1,960.0	380	744,800		
Salt		1%	392	40	15,680		
Total Raw Material Cost		**100%**	**39,200**		**19,564,720**	**119.78**	**239.57**
Packing						**3.60**	**4.80**
Total Material Cost						**123.38**	**244.37**

Table 23: Material Cost – Chicken Roll

Cost Items	Annual Input Material (Kgs)	Material Consumption Ratio	Material Consumption (KGs)	Cost / kg or ltr (PKR)	Annual Cost (PKR)	Pack - 1 (12 pieces) (PKR)	Pack - 2 (24 pieces) (PKR)
Recipe	*A*	*B*	*C=A*B*	*D*	*E=C*D*	*F=(E/A)*0.48 (Weight per Pack in kgs)* *F=(E/A)*0.96 (Weight per Pack in kgs)*	
Minced Chicken	39,200	50%	19,600	450	8,820,000		
Refined		22%	8,624	80	689,920		

Wheat flour (Maida)							
Onion		6%	2,352	30	70,560		
Garlic		2.0%	784	300	235,200		
Black pepper		1.0%	392	600	235,200		
Red pepper		2%	784	800	627,200		
Vinegar		1.0%	392	150	58,800		
Soy Sauce		2.0%	784	350	274,400		
Cooking Oil		10.0%	3,920	380	1,489,600		
Salt		1.0%	392	40	15,680		
Water		3%	1,176		-		
Total Raw Material Cost		**100%**	**39,200**		**12,516,560**	**153.26**	**306.53**
Packing						**4.80**	**7.20**
Total Material Cost						**158.06**	**313.73**

Table 24: Material Cost – Chicken Patties

Cost Items	Annual Input Material (Kgs)	Material Consumption Ratio	Material Consumption (KGs)	Cost / kg or ltr (PKR)	Annual Cost (PKR)	Pack - 1 (500 Gram) (PKR)	Pack - 2 (1 KG) (PKR)
Recipe	*A*	*B*	*C=A*B*	*D*	*E=C*D*	*F=(E/A)*0.84 (Weight per Pack in kgs)*	*F=(E/A)*1.68 (Weight per Pack in kgs)*
Puff Pastry Dough	58,800	50%	29,400	500	14,700,000		

Chicken		30%	17,640	400	7,056,000		
Milk		2%	1,176	90	105,840		
Onion		3.0%	1,764	30	52,920		
Salt		2.0%	1,176	40	47,040		
Black Pepper		0.6%	353	600	211,680		
Mustard Powder		2.0%	1,176	160	188,160		
Cooking Oil		5.0%	2,940	380	1,117,200		
Egg		5.4%	3,175	240	762,048		
Total Raw Material Cost		**100%**	**58,800**		**24,240,888**	**346.30**	**692.60**
Packing						**4.80**	**7.20**
Total Material Cost						**351.10**	**699.80**

Table 25: Material Cost – Chicken Fillet

Cost Items	Annual Input Material (Kgs)	Material Consumption Ratio	Material Consumption (KGs)	Cost / kg or ltr (PKR)	Annual Cost (PKR)	Pack - 1 (500 Gram) (PKR)	Pack - 2 (1 KG) (PKR)
Recipe	*A*	*B*	*C=A*B*	*D*	*E=C*D*		
Chicken Boneless	78,400	60.0%	47,040	400	18,816,000	*F=(E/A)*0.60 (Weight per Pack in kgs)*	*F=(E/A)*1.20 (Weight per Pack in kgs)*
Lemon		1.0%	784	200	156,800		
Black Pepper		0.5%	392	600	235,200		

Corn Starch		4.0%	3,136	200	627,200		
Garlic Powder		1.0%	784	1,000	784,000		
Red Chilli		0.5%	392	800	313,600		
Corriander		1.0%	784	50	39,200		
Salt		2.0%	1,568	40	62,720		
Bread Crumbs		18.0%	14,112	180	2,540,160		
Cooking Oil		10.0%	7,840	380	2,979,200		
Water		2.0%	1,568		-		
Total Raw Material Cost		**100%**	**78,400**		**26,554,080**	**203.22**	**406.44**
Packing						**4.80**	**7.20**
Total Material Cost						**208.02**	**413.64**

Table 26: Packing Cost

Cost Item	Wrapper Cost/Kg (PKR)	Consumption per packs (gram)	Cost per pack (PKR)
	A	B	C=(A/1000)*B
Pack - 1 (6 pieces)	1,200	3	3.6
Pack - 2 (12 pieces)		4	4.8
Pack - 2 (24 pieces)		6	7.2

9.5. Fixed Cost Estimate

Table 27 shows the estimated fixed cost of the project.

Table 27: Fixed Cost Estimate

Description of Costs	Amount (PKR)
Staff Salaries	12,216,000
Administration benefits expense	2,397,600
Building rental expense	3,240,000
Distribution cost	4,181,876
Promotional expense	2,090,938
Insurance expense	359,170
Depreciation expense	3,881,908
Amortization of pre-operating costs	150,800
Bad debt expense	522,734
Total	**29,041,026**

9.6. Financial Feasibility Analysis

The financial feasibility analysis provides the information regarding projected Internal Rate of Return (IRR), Net Present Value (NPV) and Payback period of the study, which is shown in Table 28.

Table 28: Financial Feasibility Analysis

Description	Project
IRR	46%
NPV (PKR)	92,391,933
Payback Period (years)	3.02
Projection Years	10
Discount rate used for NPV	15%

9.7. Financial Feasibility Analysis with 50% Debt

The financial feasibility analysis provides the information regarding projected IRR, NPV and payback period of the study on the basis of Debt: Equity Model (50:50), which is shown in Table 29.

Table 29: Financial Feasibility Analysis with 50% Debt

Description	Project
IRR	46%

NPV (PKR)	107,628,238
Payback Period (years)	3.00
Discount rate used for NPV	13%

9.8. Human Resource Requirement

The proposed production unit shall require the workforce as provided in Table 30.

Table 30: Human Resource

Personnel	Number of Personnel	Salary per Head (PKR)	Annual Salaries (PKR)
Owner	1	100,000	1,200,000
Production Manager	1	150,000	1,800,000
Production Supervisor	1	80,000	960,000
HR and Admin Manager	1	80,000	960,000
Assistants HR and Admin	1	50,000	600,000
Procurement Manager	1	70,000	840,000
Procurement Assistant	1	45,000	540,000
Store Incharge	1	45,000	540,000
Helper Store	2	25,000	600,000
Sales and Marketing Manager	1	80,000	960,000
Assistant Sales and Marketing	2	50,000	1,200,000
Accounts Manager	1	80,000	960,000
Assistant Accounts	2	45,000	1,080,000
Refrigerator Incharge	1	60,000	720,000
Refrigerator Operator	3	40,000	1,440,000
Labor Skilled	8	40,000	3,840,000
Labor Un-Skilled	10	25,000	3,000,000
Quality Controller	1	30,000	360,000
Mechanical Technician	1	40,000	480,000
Electrical Technician	1	40,000	480,000
Driver	1	30,000	360,000
Office Boy	2	22,000	528,000
Security Guard	2	22,000	528,000
TOTAL	**46**		**23,976,000**

10. CONTACT DETAILS

The contact details of all the major suppliers of machinery and equipment and raw material are given in Table 31.

Table 31: Contact Details

Name of Supplier	Type of Supplies	Website/Mail	Contact
EKN Cooling	Cold Storage	https://ekncooling.com.pk/cold-storage-warehouses/	+923214645080
Made in China	Cold Storage	https://www.made-in-china.com/products-search/hot-china-products/Cold_Storage.html	
Kold Kraft	Cold Storage	https://koldkraft.com/cold-stores	
AL Wajid Enterprises	Cold Storage	http://alwajid.pk/cold_room/	021-35111040
K&N's	Frozen Food	https://kandns.pk/	0800 11567
Sabroso	Frozen Food	https://www.sabroso.com.pk/	+92 42 111 722 477
PK Meat	Frozen Food	https://www.pkmeat.com/en/beefMain.php	(051) 5181975
Tazij Meats & Food	Meat	https://www.tazij.pk/	+92-3336-224-334
Punjab Agriculture & Meat Company	Meat	https://www.pamco.bz/	042-3597143-33
Sunny Flour Mills	Flour	http://www.sunnyflour.com/	+9242 5758 233 36
Rehmat Flour Mills	Flour		0321 8473033
Naturelle Cooking Oil	Cooking Oil	https://naturellecookingoil.com/	
Khalis Group of Industries	Cooking Oil	https://en.khalisgroup.com/home.html	+92-42 111-222-786

11. USEFUL LINKS

Table 32: Useful Links

Name of Organization	E-mail Address
Small and Medium Enterprises Development Authority (SMEDA)	www.smeda.org.pk

National Business Development Program (NBDP)	www.nbdp.org.pk
Government of Pakistan	www.pakistan.gov.pk
Ministry of National Health Services Regulations and Coordination	www.nhsrc.gov.pk
Ministry of Federal Education and Professional Training	www.mofept.gov.pk
Government of Punjab	www.punjab.gov.pk
Government of Sindh	sindh.gov.pk/
Government of Balochistan	balochistan.gov.pk/
Government of KPK	kp.gov.pk/
Government of Gilgit Baltistan	gilgitbaltistan.gov.pk/
Government of Azad Jammu & Kashmir	ajk.gov.pk/
Trade Development Authority of Pakistan	www.tdap.gov.pk
Securities and Exchange Commission of Pakistan	www.secp.gov.pk
State Bank of Pakistan	www.sbp.gov.pk
Federal Board of Revenue	www.fbr.gov.pk
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	www.fpcci.com.pk
Pakistan Stock Exchange (PSX)	www.psx.com.pk
Pakistan Food Association	www.facebook.com/pfa.com.pk
Pakistan Standards and Quality Control Authority (PSQCA)	http://www.psqca.com.pk

12. ANNEXURES

12.1. Income Statement

Calculations

Income Statement **SMEDA**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue										
Paratha	5,011,140	6,184,602	7,427,250	8,857,265	10,500,085	12,383,902	14,540,144	17,005,503	19,819,637	21,840,182
Chicken Nuggets	13,494,600	16,653,582	19,999,868	23,850,643	28,274,547	33,347,433	39,154,509	45,792,221	53,370,943	58,811,661
Chicken Samosa	10,120,950	12,490,475	15,000,204	17,887,782	21,206,185	25,010,857	29,365,482	34,344,655	40,029,473	44,110,316
Beef Chapli Kebab	10,662,000	13,158,745	15,802,680	18,845,246	22,340,607	26,348,728	30,936,534	36,181,984	42,169,476	46,468,473
Chicken Rolls	11,994,750	14,802,921	17,777,674	21,200,001	25,132,670	29,641,229	34,802,823	40,704,512	47,439,570	52,275,965
Chicken Patties	25,274,850	31,193,609	37,460,865	44,673,819	52,959,362	62,460,346	73,337,517	85,771,665	99,966,035	110,155,174
Chicken Fillet	27,988,600	34,541,452	41,481,240	49,468,736	58,643,434	69,163,998	81,209,135	94,977,683	110,695,345	121,979,741
	104,546,890	129,025,386	154,949,781	184,783,493	219,056,890	258,356,493	303,346,143	354,778,223	413,490,478	455,641,512
Cost of sales										
Raw Material Cost	49,611,945	60,065,755	72,123,071	85,998,045	101,937,163	120,213,133	141,134,584	165,051,165	192,352,372	211,715,844
Packing Material Cost	1,135,325	1,248,835	1,362,377	1,475,890	1,589,436	1,702,970	1,816,486	1,930,020	2,043,547	2,043,547
Direct Electricity Cost	2,313,171	2,522,204	2,750,128	2,998,647	3,269,625	3,565,090	3,887,256	4,238,534	4,621,556	5,039,191
Direct Salaries	11,760,000	12,900,720	14,152,090	15,524,843	17,030,752	18,682,735	20,494,961	22,482,972	24,663,820	27,056,211
Machinery Maintenance - Cost	1,460,000	1,606,973	1,768,742	1,946,795	2,142,773	2,358,479	2,595,899	2,857,219	3,144,846	3,461,427
Total cost of sales	66,280,441	78,344,488	92,156,407	107,944,220	125,969,750	146,522,408	169,929,184	196,559,910	226,826,141	249,316,219
Gross Profit	38,266,449	50,680,898	62,793,374	76,839,273	93,087,140	111,834,085	133,416,959	158,218,313	186,664,337	206,325,293
General administration & selling expenses										
Management Staff	12,216,000	13,400,952	14,700,844	16,126,826	17,691,128	19,407,168	21,289,663	23,354,760	25,620,172	28,105,329
Administration benefits expense	2,397,600	2,630,167	2,885,293	3,165,167	3,472,188	3,808,990	4,178,462	4,583,773	5,028,399	5,516,154
Building rental expense	3,240,000	3,564,000	3,920,400	4,312,440	4,743,684	5,218,052	5,739,858	6,313,843	6,945,228	7,639,751
Distribution cost	4,181,876	5,680,558	7,508,663	9,855,771	12,859,976	16,693,924	21,574,133	27,772,031	35,626,406	43,210,133
Indirect Electricity Cost	350,814	382,516	417,083	454,773	495,869	540,679	589,539	642,814	700,902	764,241
Travelling expense	610,800	670,048	735,042	806,341	884,556	970,358	1,064,483	1,167,738	1,281,009	1,405,266
Communications expense (phone, mail, internet, etc.)	610,800	670,048	735,042	806,341	884,556	970,358	1,064,483	1,167,738	1,281,009	1,405,266
Office vehicles running expense	610,800	672,287	739,964	814,454	896,442	986,684	1,086,010	1,195,335	1,315,666	1,448,109
Office expenses (stationery, entertainment, janitorial services, etc.)	732,960	804,057	882,051	967,610	1,061,468	1,164,430	1,277,380	1,401,286	1,537,210	1,686,320
Promotional expense	2,090,938	2,580,508	3,098,996	3,695,670	4,381,138	5,167,130	6,066,923	7,095,564	8,269,810	9,112,830
Insurance expense	359,170	305,295	251,419	197,544	143,668	89,793	35,917	628,702	534,397	440,091
Depreciation expense	3,881,908	3,881,908	3,881,908	3,881,908	3,881,908	3,881,908	2,633,418	6,923,524	6,923,524	6,923,524
Amortization of pre-operating costs	150,800	150,800	150,800	150,800	150,800	-	-	-	-	-
Bad debt expense	522,734	645,127	774,749	923,917	1,095,284	1,291,782	1,516,731	1,773,891	2,067,452	2,278,208
Subtotal	31,957,200	36,038,269	40,682,253	46,159,562	52,642,667	60,191,258	68,117,000	84,021,001	97,131,184	109,935,223
Operating Income	6,309,249	14,642,628	22,111,121	30,679,712	40,444,474	51,642,827	65,299,959	74,197,312	89,533,152	96,390,070
Gain / (loss) on sale of machinery & equipment	-	-	-	-	-	-	3,650,000	-	-	
Gain / (loss) on sale of office equipment	-	-	-	-	-	-	923,250	-	-	
Gain / (loss) on sale of office vehicles	-	-	-	-	-	-	1,401,700	-	-	
Earnings Before Interest & Taxes	6,309,249	14,642,628	22,111,121	30,679,712	40,444,474	51,642,827	71,274,909	74,197,312	89,533,152	96,390,070
Earnings Before Tax	6,309,249	14,642,628	22,111,121	30,679,712	40,444,474	51,642,827	71,274,909	74,197,312	89,533,152	96,390,070
Tax	1,328,237	4,244,919	6,858,892	9,857,898	13,275,565	17,194,989	24,066,217	25,089,059	30,456,603	32,856,524
NET PROFIT/(LOSS) AFTER TAX	**4,981,013**	**10,397,709**	**15,252,229**	**20,821,813**	**27,168,909**	**34,447,838**	**47,208,691**	**49,108,254**	**59,076,550**	**63,533,546**

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											
Current assets											
Cash & Bank	1,000,000	3,370,971	7,837,232	13,076,749	18,676,545	24,467,355	30,211,805	43,718,974	93,169,910	152,298,882	241,822,841
Accounts receivable	-	7,467,635	9,216,099	11,067,842	13,198,821	15,646,921	18,454,035	21,667,582	25,341,302	29,535,034	32,545,822
Finished goods inventory		1,380,843	1,632,177	1,919,925	2,248,838	2,624,370	3,052,550	3,540,191	4,094,998	4,725,545	5,194,088
Equipment spare part inventory	121,667	146,726	176,946	213,390	257,341	310,344	374,263	451,348	544,309	656,417	-
Raw material inventory	2,067,164	2,754,682	3,640,614	4,777,985	6,233,681	8,091,327	10,455,796	13,458,543	17,263,658	20,914,354	-
Pre-paid building rent	270,000	297,000	326,700	359,370	395,307	434,838	478,321	526,154	578,769	636,646	-
Total Current Assets	3,818,001	15,723,151	23,081,186	31,612,804	41,154,200	51,664,946	63,062,688	83,991,494	141,527,342	209,206,969	279,562,751
Fixed assets											
Land	-	-	-	-	-	-	-	-	-	-	-
Building Renovation/Infrastructure	1,364,380	1,227,942	1,091,504	955,066	818,628	682,190	545,752	409,314	272,876	136,438	-
Machinery & equipment	14,600,000	12,410,000	10,220,000	8,030,000	5,840,000	3,650,000	1,460,000	27,675,916	23,524,528	19,373,141	15,221,754
Furniture & fixtures	1,070,000	909,500	749,000	588,500	428,000	267,500	107,000	2,028,303	1,724,058	1,419,812	1,115,567
Office vehicles	5,606,800	4,765,780	3,924,760	3,083,740	2,242,720	1,401,700	560,680	8,542,533	7,261,153	5,979,773	4,698,393
Office equipment	3,693,000	3,139,050	2,585,100	2,031,150	1,477,200	923,250	369,300	7,000,490	5,950,417	4,900,343	3,850,270
Security against building	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000
Total Fixed Assets	27,144,180	23,262,272	19,380,364	15,498,456	11,616,548	7,734,640	3,852,732	46,466,557	39,543,032	32,619,508	25,695,984
Intangible assets											
Pre-operation costs	753,999	603,199	452,399	301,599	150,800	-	-	-	-	-	-
Total Intangible Assets	753,999	603,199	452,399	301,599	150,800	-	-	-	-	-	-
TOTAL ASSETS	**31,716,180**	**39,588,622**	**42,913,949**	**47,412,860**	**52,921,548**	**59,399,586**	**66,915,420**	**130,458,051**	**181,070,375**	**241,826,477**	**305,258,734**
Liabilities & Shareholders' Equity											
Current liabilities											
Accounts payable		2,891,430	3,508,408	4,225,885	5,059,064	6,025,800	7,146,518	8,445,020	9,949,090	11,628,642	11,527,354
Total Current Liabilities	-	2,891,430	3,508,408	4,225,885	5,059,064	6,025,800	7,146,518	8,445,020	9,949,090	11,628,642	11,527,354
Shareholders' equity											
Paid-up capital	31,716,180	31,716,180	31,716,180	31,716,180	31,716,180	31,716,180	31,716,180	46,751,617	46,751,617	46,751,617	46,751,617
Retained earnings		4,981,013	7,689,361	11,470,795	16,146,304	21,657,606	28,052,722	75,261,414	124,369,667	183,446,217	246,979,763
Total Equity	31,716,180	36,697,193	39,405,541	43,186,975	47,862,484	53,373,786	59,768,902	122,013,031	171,121,285	230,197,834	293,731,381
TOTAL CAPITAL AND LIABILITIES	**31,716,180**	**39,588,622**	**42,913,949**	**47,412,860**	**52,921,548**	**59,399,586**	**66,915,420**	**130,458,051**	**181,070,375**	**241,826,477**	**305,258,734**

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
Operating activities											
Net profit		4,981,013	10,397,709	15,252,229	20,821,813	27,168,909	34,447,838	47,208,691	49,108,254	59,076,550	63,533,546
Add: depreciation expense		3,881,908	3,881,908	3,881,908	3,881,908	3,881,908	3,881,908	2,633,418	6,923,524	6,923,524	6,923,524
amortization of pre-operating costs		150,800	150,800	150,800	150,800	150,800	-	-	-	-	-
Equipment inventory	(121,667)	(25,059)	(30,220)	(36,444)	(43,951)	(53,003)	(63,920)	(77,085)	(92,961)	(112,108)	656,417
Consumables Iventory	(2,067,164)	(687,518)	(885,931)	(1,137,371)	(1,455,696)	(1,857,646)	(2,364,469)	(3,002,747)	(3,805,115)	(3,650,696)	20,914,354
Pre-paid building rent	(270,000)	(27,000)	(29,700)	(32,670)	(35,937)	(39,531)	(43,484)	(47,832)	(52,615)	(57,877)	636,646
Accounts payable		2,891,430	616,979	717,477	833,179	966,736	1,120,718	1,298,502	1,504,070	1,679,552	(101,288)
Cash provided by operations	(2,818,001)	2,370,971	12,155,621	16,710,313	21,746,100	27,448,417	33,797,173	43,718,974	49,450,936	59,128,972	89,523,959
Financing activities											
Issuance of shares	31,716,180	-	-	-	-	-	-	15,035,437	-	-	-
Cash provided by / (used for) financing activities	31,716,180	-	-	-	-	-	-	15,035,437	-	-	-
Investing activities											
Capital expenditure	(27,898,179)	-	-	-	-	-	-	(45,247,243)	-	-	-
Cash (used for) / provided by investing activities	(27,898,179)	-	-	-	-	-	-	(45,247,243)	-	-	-
NET CASH	1,000,000	2,370,971	12,155,621	16,710,313	21,746,100	27,448,417	33,797,173	13,507,169	49,450,936	59,128,972	89,523,959

13. KEY ASSUMPTIONS

13.1. Operating Cost Assumptions

Table 33: Operating Cost Assumptions

Description	Details
Operating costs growth rate	10.1%
Distribution & selling expenses	4.0% of revenue
Communication expenses	5.0% of management staff expenses
Office vehicle running expenses	5.0% of management staff expenses
Office expenses (stationery, janitor, etc.)	6.0% of management staff expenses
Promotional Expense	2% of revenue

13.2. Revenue Assumptions

Table 34: Revenue Assumptions

Description	Details
Sale price growth rate	10.1%
Capacity utilization	50%
Capacity utilization growth rate	5%
Maximum capacity	90%

13.3. Financial Assumptions

Table 35: Financial Assumptions

Description	Details
Project life (Years)	10
Debt: Equity	0:100
Discount Rate	15%

13.4. Debt Related Assumptions

Table 36: Debt Related Assumption

Description of Cost	Details
Project Life (Years)	10
Debt: Equity	50:50
Discount Rate	13%

Debt Tenure	5 years
Grace Period	1 Year
Interest Rate (KIBOR+3%)	11.3%

13.5. Cash Flow Assumptions

Table 37: Cash Flow Assumption

Description	Details
Accounts receivable cycle (in days)	20
Accounts payable cycle (in days)	15

Small and Medium Enterprises Development Authority

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REGIONAL OFFICE PUNJAB	REGIONAL OFFICE SINDH	REGIONAL OFFICE KPK	REGIONAL OFFICE BALOCHISTAN
3rd Floor, Building No. 3, Aiwan-e-Iqbal Complex, Egerton Road Lahore, Tel: (042) 111-111-456 Fax: (042) 36304926-7 helpdesk.punjab@smeda.org.pk	5TH Floor, Bahria Complex II, M.T. Khan Road, Karachi. Tel: (021) 111-111-456 Fax: (021) 5610572 helpdesk-khi@smeda.org.pk	Ground Floor State Life Building The Mall, Peshawar. Tel: (091) 9213046-47 Fax: (091) 286908 helpdesk-pew@smeda.org.pk	Bungalow No. 15-A Chaman Housing Scheme Airport Road, Quetta. Tel: (081) 831623, 831702 Fax: (081) 831922 helpdesk-qta@smeda.org.pk