Pre-feasibility Study

PRODUCTION UNIT FOR PANCAKE SYRUP, BLENDED AND MIXED

October 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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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 to be obtained by the user. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision, including taking professional advice from a qualified consultant / technical expert before taking any decision to act upon the information.

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2. EXECUTIVE SUMMARY

Pancake syrups are commonly used as toppings on different types of foods like pancakes, oatmeal, coffee, etc. Pancake syrup was originally known as maple syrup and was first made and used by the people of North America. In older days, maple syrup flavor was obtained from the xylem sap of red maple and black maple trees. Commercial method of syrup production was gradually refined by the Europeans with the improvements in technology.

Pancake syrup is divided into two categories, pure maple pancake syrup which is made from xylem sap of maple trees and artificial pancake syrup which is made from corn flour, sugar and artificial flavors. Pancake syrups are made in different types of flavors i.e., maple syrup, strawberry syrup, vanilla syrup, buttermilk syrup, golden syrup, etc. More popular pancake syrups are maple syrup, strawberry syrup, vanilla syrup and blueberry syrup. These four syrups have been included in this pre-feasibility study.

This “Pre-feasibility Document” provides details for setting up a “Production Unit for Pancake Syrup, Blended and Mixed” (hereinafter referred to as the proposed business/proposed unit). The products produced by the proposed unit will be sold to both domestic and commercial consumers. The proposed business may be established in major cities such as Karachi, Lahore, Islamabad, Peshawar, Rawalpindi, Quetta, Bahawalpur, Mardan, Faisalabad, Sialkot, Hyderabad, Gujranwala, Multan, Sukkur, etc. In addition to major cities, this project may also be established in smaller cities and towns all over the country.

The proposed production unit will have maximum capacity of producing 336,000 liters of pancake syrup; including 50% of maple syrup (168,000 liters), 20% of strawberry syrup (67,200 liters), 25% of vanilla syrup (84,000 liters) and 5% of blueberry syrup (16,800 liters) in a year. It is assumed that the unit will attain 40% capacity utilization during the first year which translates into production of 134,400 liters. This includes 50% of maple syrup (67,200 liters), 20% of strawberry syrup (26,880 liters), 25% of vanilla syrup (33,600 liters) and 5% of blueberry syrup (6,720 liters).

The proposed business requires a total investment of PKR 25.73 million. This includes capital investment of PKR 12.85 million and working capital of PKR 12.88 million This project is financed through 100% equity in which case the Net Present Value (NPV) is PKR 259.22 million with an Internal Rate of Return (IRR) of 71% and a payback period of 2.54 years. Further, this project is expected to generate Gross Annual Revenues of PKR 135.51 million during 1st year of operations, Gross Profit (GP) ratio ranging from 23% to 50% and Net Profit (NP) ratio ranging from 5% to 26% during the projection period of 10 years. The proposed project will achieve its estimated breakeven point at capacity of 28% (94,218 liters and 306,882 bottles) with an annual revenue of PKR 94.99 million.

The proposed project may also be established using leveraged financing. At 50% financing at a cost of KIBOR+3%, the proposed unit provides Net Present Value

(NPV) of PKR 295.58 million, Internal Rate of Return (IRR) of 71% and Payback period of 2.55 years. Further, this project is expected to generate Net Profit (NP) ratio ranging from 5% to 26% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 29% (97,513 liters and 317,613 bottles) with annual revenue of PKR 98.32 million.

The proposed project will provide employment opportunities to 36 people including the owner. The legal business status of this project is proposed as “Sole Proprietorship”.

3. INTRODUCTION TO SMEDA

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with 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 provide information to the potential investors about establishing a “Production Unit for Pancake Syrup, Blended and Mixed”. The document provides a general understanding of the business to facilitate potential investors in crucial and effective investment decisions.

The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attain 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 & PRODUCTS

This document provides details for establishing a production unit for pancake syrups. Pancake syrups are commonly used as toppings on different types of foods like pancakes, oatmeal, coffee, etc. They can also be used as topping on other type of cakes, breads and/or as an alternate to jams in the breakfast meal.

Pancake syrup was originally known as maple syrup and was first made and used by the people of North America. In older days, maple syrup flavor was obtained from the xylem sap of red maple and black maple trees. The production method of syrup processing was gradually refined by the Europeans with the improvements in technology. In the current times, the methods for producing pancake syrups have further been improved. Pancake syrup is divided into two categories, pure maple pancake syrup which is made from xylem sap of maple trees and artificial pancake syrup which is made from corn flour, sugar and artificial flavors.

The modern-day pancake syrup is a concentrated mixture of water, sugar, flavor, sodium benzoate (for preservation) and corn flour (thickening agent). Pancake syrups may be made in different types of flavors i.e., maple syrup, strawberry syrup, vanilla syrup, buttermilk syrup, golden syrup, etc. More popular pancake syrups are maple syrup, strawberry syrup, vanilla syrup and blueberry syrup and these four types have also been included in this pre-feasibility document. Maple syrup, strawberry syrup, vanilla syrup and blueberry syrup will be produced in the ratios of 50%, 20%, 25% and 5% respectively. This proportion is based on the market demand of these flavors. The maple flavor is not available in the local market and has to be imported from Canada. The pancake syrups of maple flavors are not locally produced in Pakistan.

Maple Pancake Syrup

Ingredients of maple flavor are sugar, water, maple flavor, sodium benzoate (preservative) and corn flour (thickening agent). In one batch, 300 liters of maple

syrup is produced by using 200 kg of sugar, 240 liters of water, 15 liters of maple syrup, 0.6 kg of sodium benzoate (preservative) and 44 kg of corn flour (thickening agent). 40% loss occurs due to evaporation during boiling.

Strawberry Pancake Syrup

For producing strawberry flavored pancake syrup, 200 kg of sugar, 240 liter of water, 20 liter of strawberry flavor, 40 kg of corn flour (thickening agent) and 0.6 kg of sodium benzoate (preservative) is used to produce 300 liters of strawberry pancake syrup. 40% loss occurs due to evaporation during boiling.

Vanilla Pancake Syrup

For producing vanilla flavored pancake syrup, 200 kg sugar, 240 liters of water, 15 liters of vanilla flavor, 0.6 kg of sodium benzoate (preservative) and 44 kg of corn flour (thickening agent) is used to produce 300 liters of vanilla pancake syrup. During this process, 40% loss occurs due to evaporation in boiling.

Blueberry Pancake Syrup

For producing blueberry pancake syrup, 200 kg sugar, 240 liters of water, 15 liters of blueberry flavor, 0.6 kg of sodium benzoate (preservative) and 44 kg of corn flour (thickening agent) is used to produce 300 liters of blueberry pancake syrup. 40% loss occurs due to evaporation in boiling.

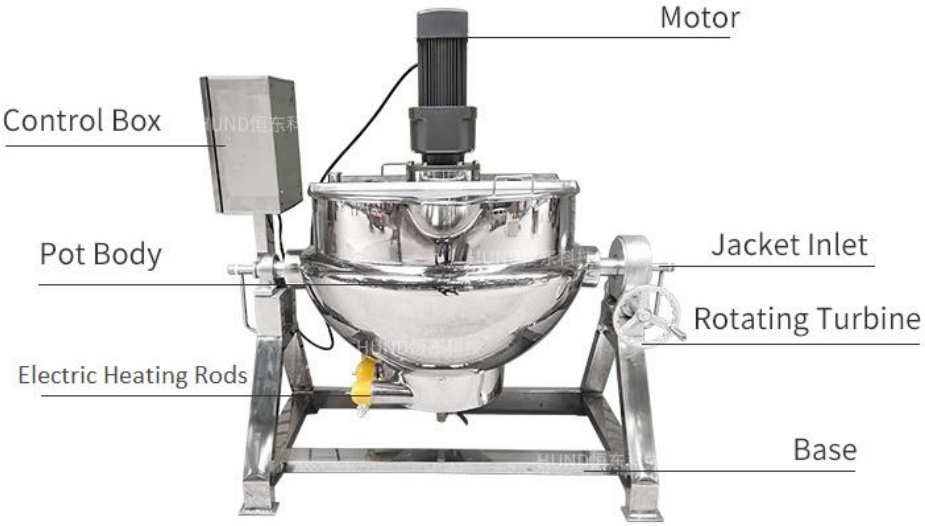
5.1. Machinery and Equipment

Machinery and equipment required for “Production Unit for Pancake Syrup, Blended and Mixed” are briefly discussed below:

Boiler Machine with Agitator Mixer

Boiler machine, equipped with an agitator mixer, is used for boiling and mixing of the required ingredients as per the recipe. The machine has a capacity of holding 500 liters per batch. Raw materials are added into the pot and are stirred by a built-in stirrer inside the pot, using electricity. The material in the pot is heated and boiled by the installed electric rods. The pot body is rotated manually by using the rotating turbine to pour the material. The machine uses an electric power of 22,000 watts and its operations are controlled through a control box. Figure 1shows boiler machine with agitator mixer.

Figure 1: Boiler Machine with Agitator Mixer



Storage Tank

Storage tanks, made up of stainless steel, are used for storage and cooling of the product. Capacity of one storage tank is 500 liters. These tanks can be easily moved from one place to another by their own built-in wheels. In the proposed project, the boiled syrup is transferred into the storage tanks for cooling of the syrup. It takes approximately 3-4 hours for cooling 300 liters of syrup. There are 4 storage tanks used for this project. Figure 2 shows picture of storage tank.

Figure 2: Storage Tank

Water Filtration Unit

Water filtration unit will be used for filtering the water, required for preparation of syrups. Water filtration unit has a capacity of filtering 500 liters of water per hour. It operates on electricity with an electric consumption of 25 watts. Figure 3 shows picture of water filtration unit.

Figure 3: Water Filtration Plant

Bottle Filling Machine

Bottling machine is used to fill liquid into the bottles. In the proposed project, bottle filling machine is used to fill the syrup into the bottles. Capacity of this machine is 9 bottles per minute and it has an electricity power of 1,120 watts. Figure 4 shows picture of bottle filling machine.

Figure 4: Bottle Filling Machine

Handheld Capping Machine

Handheld capping machine is also used in the proposed model to close the filled bottles. This machine is used for capping the filled bottles manually by labor. It operates on electricity with an electric power of 120 watts.

Figure 5 shows picture of capping machine.

Figure 5: Capping Machine

Labelling Machine

Labelling machine is also used in the proposed model to glue labels on the filled bottles. Capacity of this machine is 10 bottles per minute and it has an electricity power of 100 watts. Figure 6 shows labelling machine.

Figure 6: Labelling Machine

Weigh Scale

Weigh scale is used to measure the quantity of ingredients to be used. It has a maximum measuring capacity of 300 kg. In the proposed project, weigh scale is used to measure the weight of the raw materials (sugar, corn starch and sodium benzoate). It has an electricity power of 25 watts. Figure 7 shows picture of weigh scale.

Figure 7 Weigh Scale

Handheld Trolley

Handheld trollies are used for carrying load or to transport the material from one point to another. In the proposed business, trollies are used to bring raw material from store to production area and also to carry packed cartons of syrup bottles from the packing area to the finished goods store room. Figure 8 shows picture of handheld trolley.

Figure 8: Handheld Trolley

Refractometer

The refractometer is a well-established instrument used for measuring the sugar content of liquids. It measures the refractive index of the liquid, which show the water and sugar level in the syrup. The level of sugar in the syrup should be between 66%

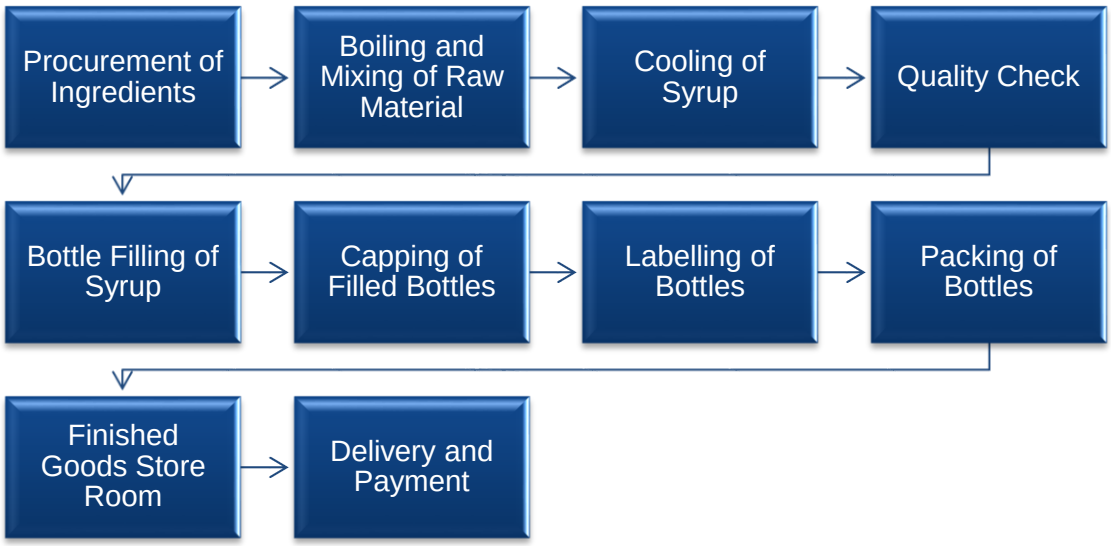
and 68% brix[1] to develop the acceptable taste. Quality controller will use this equipment to check syrup quality. Figure 9shows picture of refractometer.

Figure 9 Refractometer

5.2. Process Flow of Production Unit for Pancake Syrup, Blended and Mixed

The process flow of production unit for pancake syrup, blended and mixed for all the proposed products (flavors) is shown in Figure 10.

Figure 10: Process Flow of Production Unit of Pancake Syrup



The brief description of process flow is provided below:

Procurement of Ingredients

For manufacturing pancake syrups, all the raw materials (sugar, flavors and sodium benzoate and corn starch) are purchased from the trusted local market suppliers having good reputation in the market in term of their quality parameters (other than maple flavor/extract). The main ingredient of maple syrup is not available locally in Pakistan and it has to be imported from trusted suppliers of Canada, which is the main producer of maple syrup and enjoys a good reputation in term of the product quality. Canada alone produces 71% of the world's pure maple syrup/extract. The proposed business will maintain the average inventory of maple syrup for an average

[1] Brix (symbol °Bx) is the sugar content of an aqueous solution.

of 2 months to avoid any production stoppage due to unavailability of raw material. Other syrups raw materials inventory will be maintained for an average of 1 month.

The raw materials used for maple syrup in the proposed project are water, sugar, maple flavor, corn flour and sodium benzoate.

The raw materials used for strawberry syrup in the proposed project are water, sugar, strawberry flavor, corn flour and sodium benzoate.

The raw materials used for vanilla syrup in the proposed project are water, sugar, vanilla flavor, corn flour and sodium benzoate.

The raw materials used for blueberry syrup in the proposed project are water, sugar, blueberry flavor, corn flour and sodium benzoate.

Boiling and Mixing of Raw Materials

All the procured raw materials in the required quantities are added manually by the labor into the boiler/mixer where they are mixed by the stirrer installed in the tank. The materials are boiled for 1 hour and 45 minutes in a temperature range of 100-112 C. The stirrer of the boiler continuously stirs the ingredients to prevent any burning. Around 40% of the material (mainly water) is lost during this process due to evaporation. The production process is completed within 1 hour and 45 minutes and 15 minutes are required to clean the boiler. Cleaning is done using Ethylene-Diamine-Tetra-Acetic Acid (EDTA)[2] to make it ready for the next batch.

Cooling of Syrup

After boiling, the hot pancake syrup is ready, and it is transferred into the storage tanks (for cooling) manually by labor. The labor rotates the rotating turbine of the boiler to transfer the hot pancake syrup into storage tanks. There are 4 storage tanks used in this project and the capacity of each tank is 500 liters. The storage tank is filled with the produced batch of 300 liters. The empty volume of 200 liters in the tank allows circulation of air which helps the mixture to cool down quickly. The mixture is then cooled at room temperature in the storage tanks for 3-4 hours following which the syrup is ready for filling and packing.

Quality Check

After cooling, the quality of the syrup is checked by the quality controller using refractometer. The refractometer is used to measure the sugar content of the syrup by measuring its refractive index. The level of sugar in the syrup should be from 66% to 68% brix so as to create an acceptable taste for the consumer. As part of this quality assurance activity, some visual inspections are also performed by the quality controller; to ensure that the syrup is clean and clear and has a good uniform color. In addition to this, flavor and odor of the syrup are also checked to ensure that they

[2] Ethylene Diamine Tetra Acetic Acid (EDTA) is a commonly used operational cleaning chemical. For forced-circulation boilers, the use of Diammonium EDTA is practically a standard practice.

match with the targeted parameters and that the syrup is free from any off flavors and unpleasant odors which may make it unacceptable for the consumers.

Bottle Filling of Syrup

After cooling, the syrup is transferred from the cooling tanks to the filling machine, which packs the syrup into attractive food grade plastic bottles. The bottles are procured from the suppliers in the local market. The machine fills the syrup bottles of different sizes; 250 ml, 350 ml and 500 ml. The bottling machine has a capacity of filling 9 bottles per minute. Figure 11 shows food grade plastic bottle.

Figure 11: Food Grade Plastic Bottle

Capping of Filled Bottles

After the bottle filling, the next step is to cap the filled bottles. In proposed unit, handheld capping machines are used for that purpose which are then manually used by the labor to cap the filled bottles.

Labelling of Bottles

After the bottles are properly capped, next step is to paste labels on the bottles by using labelling machine. The proposed machine has a capacity to label of 10 bottles per minute.

Packing of Bottles

After labelling process, these labelled bottles are packed in cartons boxes (18 bottles of 250 ml per carton, 15 bottles of 350 ml per carton and 9 bottles of 500 ml per carton) manually by the labor.

Finished Goods Store

The cartons of the pancake syrup bottles are transferred to finished goods store by using hand trollies, where the cartons are properly stored by the store keeper to protect them from any damage or loss. The finished goods store maintains finished goods inventory, equal to an average of half month.

Delivery and Payment

From finished goods store, the products are dispatched to customers. A credit period of 40 days is allowed to the customers. Rickshaw loader is used to deliver the products and for transportation of raw material to the production unit.

5.3. Installed and Operational Capacities

The proposed production unit will have maximum annual capacity of producing 336,000 liters of pancake syrup which includes 50% of maple syrup (168,000 liters), 20% of strawberry syrup (67,200 liters), 25% of vanilla syrup (84,000 liters) and 5% of blueberry syrup (16,800 liters) in a year. It is assumed that the project will attain 40% capacity utilization during the first year of operations to produce 134,400 liters; which includes 50% of maple syrup (67,200 liters), 20% of strawberry syrup (26,880 liters), 25% of vanilla syrup (33,600 liters) and 5% of blueberry syrup (6,720 liters).

The unit will produce products in three packings; the bottles of 250 ml, 350 ml and 500 ml in the shares of 50%, 30% and 20% respectively. As per the above-mentioned capacity, at 100% utilization, the unit will produce 547,200 bottles of maple syrup (336,000 bottles of 250 ml, 144,000 bottles of 350 ml and 67,200 bottles of 500 ml), 218,880 bottles of strawberry syrup (134,400 bottles of 250 ml, 57,600 bottles of 350 ml and 26,880 bottles of 500 ml), 273,600 bottles of vanilla syrup (168,000 bottles of 250 ml, 72,000 bottles of 350 ml and 33,600 bottles of 500 ml) and 54,720 bottles of blueberry syrup (33,600 bottles of 250 ml, 14,400 bottles of 350 ml and 6,720 bottles of 500 ml) at 100% capacity.

In the 1st year of operations at 40% capacity utilization, the unit will produce 218,880 bottles of maple syrup (134,400 bottles of 250 ml, 57,600 bottles of 350 ml and 26,880 bottles of 500 ml), 87,552 bottles of strawberry syrup (53,760 bottles of 250 ml, 23,040 bottles of 350 ml and 10,752 bottles of 500 ml), 109,440 bottles of vanilla syrup (67,200 bottles of 250 ml, 28,800 bottles of 350 ml and 13,440 bottles of 500 ml) and 21,888 bottles of blueberry syrup (13,440 bottles of 250 ml, 5,760 bottles of 350 ml and 2,688 bottles of 500 ml). The operational capacity is assumed to increase at the rate of 5% per annum. to reach a maximum of 85% in year 10. Table 1 shows details of maximum annual capacity and operational capacity utilized during first year of operations. Table 2,

Table 3, Table 4, Table 5 and Table 6 shows details of maximum annual capacity and operational capacity utilized for product-wise production of maple syrup, strawberry syrup, vanilla syrup and blueberry syrup during 1st year of operations.

Table 1: Installed and Operational Capacity in Liters

Particulars	Working Hours per Day	Average Batch Time Required for Each Prohuct in Boiler Mixer (Hours)	Number of Batches per day Prepared by Boiler Mixer	Liters Per Batch	Total Liters Per Day	Liters per Product per Year @ 100% Capacity	Capacity @40%
Pancake Syrup	8	2	4	300	1,200	336,000	134,400

Table 2: Installed and Operational Capacity in Liters – Product Wise

Particulars	Total Liters Per Day	Product Ratio	Liters Produced per Product per Day	Liters Produced per Product per Year	Capacity @40%
Maple Syrup	1,200	50%	600	168,000	67,200
Strawberry Syrup		25%	300	67,200	26,880
Vanilla Syrup		20%	240	84,000	33,600
Blueberry Syrup		5%	60	16,800	6,720
Total			**1,200**	**336,000**	**134,400**

Table 3: Installed and Operational Capacity- Maple Syrup Bottles

Products	Total Syrup Produce Per Year at 100% Capacity (Liters)	Ratio of Different Packings	Liters (A)	Syrup Per Bottle (ml) (B)	No of Bottles (A*1000)/B (100 % Capacity)	No. of Bottles at 40% Capacity
250 ml Bottle	168,000	50%	84,000	250	336,000	134,400
350 ml Bottle		30%	50,400	350	144,000	57,600

500 ml Bottle		20%	33,600	500	67,200	26,880
Total		**100%**	**168,000**		**547,200**	**218,880**

Table 4: Installed and Operational Capacity- Strawberry Syrup Bottles

Products	Total Syrup Produce Per Year at 100% Capacity (Liters)	Ratio of Different Packings	Liters (A)	Syrup Per Bottle (ml) (B)	No of Bottles (A*1000)/B (100 % Capacity)	No. of Bottles at 40% Capacity
250 ml Bottle	67,200	50%	33,600	250	134,400	53,760
350 ml Bottle		30%	20,160	350	57,600	23,040
500 ml Bottle		20%	13,440	500	26,880	10,752
Total		**100%**	**67,200**		**218,880**	**87,552**

Table 5: Installed and Operational Capacity- Vanilla Syrup Bottles

Products	Total Syrup Produce Per Year at 100% Capacity (Liters)	Ratio of Different Packings	Liters (A)	Syrup Per Bottle (ml) (B)	No of Bottles (A*1000)/B (100 % Capacity)	No. of Bottles at 40% Capacity
250 ml Bottle	84,000	50%	42,000	250	168,000	67,200
350 ml Bottle		30%	25,200	350	72,000	28,800
500 ml Bottle		20%	16,800	500	33,600	13,440
Total		**100%**	**84,000**		**273,600**	**109,440**

Table 6: Installed and Operational Capacity-Blueberry Syrup Bottles

Products	Total Syrup Produce Per Year at 100% Capacity (Liters)	Ratio of Different Packings	Liters (A)	Syrup Per Bottle (ml) (B)	No of Bottles (A*1000)/B (100 % Capacity)	No. of Bottles at 40% Capacity
250 ml Bottle	16,800	50%	8,400	250	33,600	13,440
350 ml Bottle		30%	5,040	350	14,400	5,760
500 ml Bottle		20%	3,360	500	6,720	2,688
Total		**100%**	**16,800**		**54,720**	**21,888**

6. CRITICAL FACTORS

Before making the decision to invest in "Production Unit for Pancake Syrup, one should carefully analyze the associated risk factors. The important considerations in this regard include:

- The entrepreneur should have prior technical knowledge and experience of the food and beverage industry.
- The raw material used for making the final product should meet the required quality standards.
- The business must comply with standards set by provincial Food Authorities and Pakistan Standards & Quality Control Authority (PSQCA) to obtain required license.
- Availability of trained resources is very critical for production of pancake syrup.
- The pricing and marketing strategy will play an important role in attracting the target customers.
- The business must maintain consistent quality of the pancake syrup, as quality will be the critical factor in retaining the customers and this will also help in obtaining continuous orders from the customers.

7. GEOGRAPHICAL POTENTIAL FOR INVESTMENT

A production unit for pancake syrup, blended and mixed can be established in major cities of Pakistan such as Karachi, Lahore, Peshawar, Islamabad, Rawalpindi, Quetta, Bahawalpur, Mardan, Faisalabad, Sialkot, Hyderabad, Gujranwala, Multan, Sukkur, or any other major city with a large population. Demand of pancake syrup in these areas is high due to presence of larger share of affluent population and large number of wholesalers, retail shops, bakeries, hotels and restaurants.

8. POTENTIAL TARGET CUSTOMERS/MARKETS

The potential target customers of the proposed business mainly comprise of general household consumers, restaurants, general retailers and wholesalers and food processing units. Other potential customers of pancake syrup business are supermarkets/hypermarkets. The demand of these customers will arise from presence of large population in the above stated cities.

Pancake syrup is commonly used with pancakes as a breakfast in restaurants, cafés and households. Pancake syrup is also used to enhance the flavor of waffles, French-toast, oatmeal, or porridge.

As per statistics of State Bank of Pakistan[3] under HS-Code 1702, total import of pancake syrup in 2017-2018 was USD $18.9 million which is higher as compared to the import of USD $15.2 million in 2016-2017. Increasing demand in the current market is fulfilled by importing pancake syrup from around 26 countries in the world.

In Pakistan, Salman's is the only manufacturer of syrups which produces flavored syrups whose supplies are not enough to meet the demand. This is the main reason to invest in this project due to its high demand.

9. PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of the Production Unit for Pancake Syrup, Blended and Mixed. Various costs and revenue related assumptions along with results of the analysis are outlined in this section.

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

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

9.1. Initial Project Cost

Table 7 provides fixed and working capital requirements for establishment and operations of the Production Unit for pancake syrup, blended and mixed.

Table 7: Project Cost

Description of Costs	Amount (PKR)	Reference
Land	-	9.1.1
Building / Infrastructure	1,467,475	9.1.2
Machinery & equipment	2,024,500	9.1.3
Furniture & fixtures	860,000	9.1.4
Office vehicles	334,000	9.1.5
Office equipment	2,211,000	9.1.6
Security against building	600,000	9.1.7
Pre-operating costs	5,356,622	9.1.8
Total Capital Cost	**12,853,597**	
Equipment spare part inventory	50,613	

[3] https://www.sbp.org.pk/publications/import/2018/feb/4.pdf

Raw Material Inventory	11,830,733	
Cash	1,000,000	
Working Capital	**12,881,345**	
Total Project Cost	**25,734,942**	

9.1.1. Land

The production unit for pancake syrup, blended and mixed will be established in a rented building to avoid the high cost of land. Suitable location for setting up the proposed business can be easily found on rent. Therefore, no land cost has been added to the project cost. Total space requirement for the proposed unit has been estimated as 4,390 sq. feet. The breakup of the space requirement is provided in Table 8.

Table 8: Breakup of Space Requirement

Description	Area Sq. Feet
Exceutive Office	180
Admin Building Area	1,020
Production Area	2,100
Quality Control Lab	110
Storage Area-Raw Material	400
Storage Area-Finished Goods	400
Washrooms	180
Total	**4,390**

9.1.2. Building

There will be no cost of building construction since the proposed business will be started in 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 around 10 KW for which an electricity connection under the three phase Industrial Supply Tariff will be required. Building rent of PKR 200,000 per month has been included in the operating cost. Table 9 provides details of building renovation cost.

Table 9: Building Renovation Cost

Cost Item	Unit of Measurement (UOM)	Total Units	Cost/Unit (PKR)	Total Cost (PKR)
Paint Cost	Liter	97	500	48,725
Labour Cost	Sq. Feet	9,745	10	97,450

Wall Racks	No.	20	8,000	160000
Blinds	No.	2	5,000	10,000
Tiles	Sq. Feet	3,590	120	430,800
Glass Partitions	Sq.Feet	1,310	550	720,500
Total (PKR)				**1,467,475**

9.1.3. Machinery and Equipment Requirement

Table 10 provides details of machinery and equipment required for establishing the proposed business.

Table 10: Machinery and Equipment Requirement

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Boiler Machine (With Agitator Mixer) (500 Liter/Hour)	1	900,000	900,000
Weighing Scale (300 kg)	1	30,000	30,000
Hand Held Trollies	4	5,000	20,000
Refractometer	1	3,500	3,500
Water Filtration Plant (500 Liter /hour)	1	60,000	60,000
Storage Tank (500 Liter)	4	30,000	120,000
Manual Drum Lifter (500 kg)	1	27,000	27,000
Bottle Filling (9 Bottles per minute)	1	214,000	214,000
Hand Held Capping Machine	5	12,000	60,000
Labeling Machine (10 Bottles per minute	1	300,000	300,000
Generator (15 KW)	1	270,000	270,000
Water Suction Pump (1.5 Hp)	1	20,000	20,000
Total Cost			**2,024,500**

9.1.4. Furniture & Fixtures Requirement

Table 11 provides details of the furniture and fixture requirement of the project.

Table 11: Furniture and Fixtures Requirement

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Owner Table	1	30,000	30,000
Owner Chair	1	20,000	20,000

Office Chairs	36	10,000	360,000
Office Tables	11	25,000	275,000
Sofa Sets	5	35,000	175,000
Total			**860,000**

9.1.5. Office Equipment Requirement

Details of office equipment required for the project is provided in Table 12.

Table 12: Office Equipment Requirement

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Laptop	6	120,000	720,000
Desktop	5	60,000	300,000
Printer	6	40,000	240,000
LED/LCD/TV (Survellience)	2	40,000	80,000
Water Dispenser	2	20,000	40,000
Ceiling Fan	30	5,000	150,000
Wi-Fi / Internet Routers	2	5,000	10,000
Exhaust Fan	25	3,000	75,000
1.5 ton Air Conditioner	6	90,000	540,000
Security Cameras - 2MP	16	2,000	32,000
Digital Video Recorder (DVR)	2	12,000	24,000
Total Cost			**2,211,000**

9.1.6. Office Vehicle Requirement

Details of office vehicle required for the project is provided in Table 13.

Table 13: Office Vehicle Requirement

Cost Item	Unit(s)	Unit Cost (PKR)	Registration fee	Total Cost (PKR)
Loader Rickshaw	1	250,000	2,500	252,500
Motorcycle	1	80,000	1,500	81,500
Total Cost				**334,000**

9.1.7. Security against Building

Details of security against building for the project are provided in Table 14.

Table 14: Security against Building

Cost Item	Months	Unit Cost (PKR)	Total Cost (PKR)
Security Against Building	3	200,000	600,000
Total (PKR)			**600,000**

9.1.8. Pre-Operating Cost

Details of pre-operating cost for the project are provided in Table 15.

Table 15: Pre-Operating Cost

Cost Item	Number / Months	Hiring before Year 0	Unit Cost (PKR)	Total Cost (PKR)
Production Manager	1	1	80,000	80,000
Production Supervisor	1	1	60,000	60,000
Labor-Skilled	1	1	35,000	35,000
Labor-Unskilled	1	1	25,000	25,000
Office Boy	2	1	22,000	22,000
Security Guards (Day + Night)	2	1	22,000	22,000
Brand launching Cost				5,000,000
Utilities Expense				112,622
Total				**5,356,622**

9.2. Breakeven Analysis

Breakeven analysis is provided in Table 16.

Table 16: Breakeven Analysis

Particulars	Amount First Year (PKR)	Ratios
Sales	135,506,800	100%
Variable Cost	105,818,379	78%
Contribution	29,688,421	22%
Fixed Cost	20,812,415	15%
Breakeven		
Breakeven (Liters)		94,218
Breakeven (Bottles)		306,882
Breakeven Revenue (PKR)		94,994,062

Breakeven Capacity	28%

9.3. Revenue Generation

Table 21 provides details for revenue generation of the Production Unit for Pancake Syrup, Blended and Mixed during the first year of operations, based on 40% capacity utilization.

Table 17: Revenue Generation of Maple Syrup

Products	Liters Produced at 100% Capacity (A)	Syrup Per Bottle (ml) (B)	No of Bottles at 100% Capacity ((A*1000)/B)	No. of Bottles at 40% Capacity	Quantity Sold (Bottles)	Price per Bottle (PKR)	Revenue at 40% Capacity (PKR)
250 ml Bottle	84,000	250	336,000	134,400	128,800	270	34,776,000
350 ml Bottle	50,400	350	144,000	57,600	55,200	360	19,872,000
500 ml Bottle	33,600	500	67,200	26,880	25,760	490	12,622,400
Total	**168,000**		**547,200**	**218,880**	**209,760**		**67,270,400**

Table 18 Revenue Generation of Strawberry Syrup

Products	Liters Produced at 100% Capacity (A)	Syrup Per Bottle (ml) (B)	No of Bottles at 100% Capacity ((A*1000)/B)	No. of Bottles at 40% Capacity	Quantity Sold (Bottles)	Price per Bottle (PKR)	Revenue at 40% Capacity (PKR)
250 ml Bottle	33,600	250	134,400	53,760	51,520	250	12,880,000
350 ml Bottle	20,160	350	57,600	23,040	22,080	330	7,286,400
500 ml Bottle	13,440	500	26,880	10,752	10,304	450	4,636,800
Total	**67,200**		**218,880**	**87,552**	**83,904**		**24,803,200**

Table 19 Revenue Generation of Vanilla Syrup

Products	Liters Produced at 100% Capacity (A)	Syrup Per Bottle (ml) (B)	No of Bottles at 100% Capacity ((A*1000)/B)	No. of Bottles at 40% Capacity	Quantity Sold (Bottles)	Price per Bottle (PKR)	Revenue at 40% Capacity (PKR)
250 ml Bottle	42,000	250	168,000	67,200	64,400	250	16,100,000
350 ml Bottle	25,200	350	72,000	28,800	27,600	330	9,108,000
500 ml Bottle	16,800	500	33,600	13,440	12,880	450	5,796,000
Total	**84,000**		**273,600**	**109,440**	**104,880**		**31,004,000**

Table 20 Revenue Generation of Blueberry Syrup

Products	Liters Produced at 100% Capacity (A)	Syrup Per Bottle (ml) (B)	No of Bottles at 100% Capacity ((A*1000)/B)	No. of Bottles at 40% Capacity	Quantity Sold (Bottles)	Price per Bottle (PKR)	Revenue at 40% Capacity (PKR)
250 ml Bottle	8,400	250	33,600	13,440	12,880	500	6,440,000
350 ml Bottle	5,040	350	14,400	5,760	5,520	665	3,670,800
500 ml Bottle	3,360	500	6,720	2,688	2,576	900	2,318,400
Total	**16,800**		**54,720**	**21,888**	**20,976**		**12,429,200**

Table 21: Total Revenue

Products	Total Revenue(PKR)
Maple Syrup	67,270,400
Strawberry Syrup	24,803,200
Vanilla Syrup	31,004,000
Blueberry Syrup	12,429,200
Total Revenue (PKR)	**135,506,800**

9.4. Variable Cost Estimate

Variable costs of the project have been provided in detail in Table 22.

Table 22: Variable Cost Estimate

Description of Costs	Total Cost (PKR)
Raw Material- Maple Syrup	53,778,383
Raw Material- Strawberry Syrup	23,820,848
Raw Material- Vanilla Syrup	9,257,891
Raw Material- Blueberry Syrup	1,333,291
Bottle Cost	3,411,360
Label Cost`	368,000
Cartons packing cost	2,127,040
Other Consumables	262,170
Direct Utilities Cost	868,075
Direct Labor	8,340,000
Machinery Maintenance - Cost	607,350
Fuel Cost-Generator	348,571
Water expense	136,454
Communications expense (phone,mail, internet, etc.)	320,400
Office vehicles running expense	386,633
Office expenses (stationery, entertainment, etc.)	448,560
Total Variable Cost (PKR)	**105,818,379**

Table 23: Raw Material Cost –Maple Syrup

Cost Item	Unit of Measurement	Cost per unit (PKR)	Consumption per Batch	Cost Per Batch (PKR)
Sugar	KG	100	200	20,000
Water	Liter	-	240	-
Maple Flavor	Liter	15000	15	225,000
Thickning agent (Corn Flour)	KG	80	44	3,520
Preservative (Sodium Benzoate)	KG	3000	0.60	1,800
Total			**499.6**	**250,320**
Batch Output (Liters)			**299.8**	
Cost per 1 Liter				835.1
Cost per 250 ml Bottle				208.8
Cost per 350 ml Bottle				292.3
Cost per 500 ml Bottle				417.5

Table 24: Raw Material Cost-Strawberry Syrup

Cost Item	Unit of Measurement	Cost per unit (PKR)	Consumption per Batch	Cost Per Batch (PKR)
Sugar	Kg	100	200.00	20,000
Water	Liter		240	-
Strawberry Flavor	Liter	2,000	20.0	40,000
Thickning agent (Corn Flour)	Kg	3,000	0.60	1,800
Preservative (Sodium Benzoate)	Kg	80	40.00	3,200
Total			**500.6**	**65,000**
Batch Output (Liters)			**300.4**	
Cost per 1 Liter				216.4
Cost per 250 ml Botle				54.1
Cost per 350 ml Bottle				75.7
Cost per 500 ml Bottle				108.2

Table 25: Raw Material Cost-Vanilla Syrup

Cost Item	Unit of Measurement	Cost per unit (PKR)	Consumption per Batch	Cost Per Batch (PKR)
Sugar	Kg	100	200	20,000
Water	Liter		240	-
Vanilla Flavor	Liter	1,600	15	24,000
Preservative (Sodium Benzoate)	Kg	3,000	0.6	1,800
Thickning agent (Corn Flour)	Kg	80	44	3,520
Total			**499.6**	**49,320**
Batch Output (Liters)			**299.8**	
Cost per 1 Liter				164.53
Cost per 250 ml Botle				41.1
Cost per 350 ml Bottle				57.6
Cost per 500 ml Bottle				82.3

Table 26: Raw Material Cost-Blueberry Syrup

Cost Item	Unit of Measurement	Cost per unit (PKR)	Consumption per Batch	Cost Per Batch (PKR)
Sugar	Kg	100	200	20,000
Water	Liter		240	-
Blueberry Flavor	Liter	1,700	15	25,500
Preservative (Sodium Benzoate)	Kg	3,000	0.6	1,800
Thickning agent (Corn Flour)	Kg	80	44	3,520
Total			**499.6**	**50,820**
Batch Output (Liters)			**299.8**	
Cost per 1 Liter				169.54
Cost per 250 ml Botle				42.4
Cost per 350 ml Bottle				59.3
Cost per 500 ml Bottle				84.8

Table 27: Direct Labor

Post	No.of Employees	Monthly Salary (PKR)	Annual Salary (PKR)
Production Manager	1	80,000	960,000
Production Supervisor	1	60,000	720,000
Labor-Skilled	5	35,000	2,100,000
Labor-Unskilled	12	25,000	3,600,000
Procurement Officer	1	40,000	480,000
Quality Controller	1	40,000	480,000
Total	**15**		**8,340,000**

Table 28: Other Consumables

Cost Item	No.	Unit Cost (PKR)	Total Cost(PKR)
Soap	60	40	2,400
Detergent (1 kg pack)	12	180	2,160
Sponge	24	60	1,440
Mop	10	200	2,000
Stainless Steel Sprial	24	50	1,200
Liquid Soap (500 ml)	12	180	2,160
Ethylenediaminetetraacetic acid (EDTA) (250 gram packet)	280	750	210,000
Phenyle (3 liter)	24	190	4,560
Disposable Hairnet Caps	500	60	30,000
Disposable Gloves (Pack of 100)	25	250	6,250
Total			**262,170**

Table 29: Machinery Maintenance Cost

Cost Item	Machinery Cost (PKR)	Rate	Total Cost (PKR)
Maintenance Cost	2,024,500	30%	607,350
Total (PKR)			**607,350**

Table 30: Bottle Cost

Cost Item	Cost per Bottle (PKR)
250 ml Bottle	7.2
350 ml Bottle	8.5
500 ml Bottle	12

Table 31: Label Cost

Cost Item	Cost per Bottle (PKR)
250 ml Bottle	0.75
350 ml Bottle	1
500 ml Bottle	1.25

Table 32: Carton Packaging Cost

Cost Item	Capacity per Carton (Bottles)	No. of Cartons	Unit Cost (PKR)
250 ml Bottle	18	14,933	30
350 ml Bottle	15	7,475	30
500 ml Bottle	9	5,973	30

Table 33: Variable cost Assumptions

Description of Costs	Rate	Rationale
Communications expense (phone, mail, internet, etc.)	5%	of management expense
Office expenses (stationery, entertainment, janitorial services, etc.)	7%	of management expense5

9.5. Fixed Cost Estimate

Details of fixed cost for the project are provided in Table 34.

Table 34: Fixed Cost Estimate

Description of Costs	Amount (PKR)
Management Staff	6,408,000
Administration benefits expense	737,400
Building rental expense	2,400,000
Promotional expense	8,130,408

Depreciation expense	961,173
Indirect Utilities	343,576
Amortization of pre-operating costs	1,071,324
Bad Debt expense	677,534
License,Permits,etc.	83,000
Total Fixed Cost	**20,812,415**

Table 35: Staff Salaries

Post	No.of Employees	Monthly Salary (PKR)	Annual Salary (PKR)
Admin & HR Manager	1	60,000	720,000
Accounts Manager	1	60,000	480,000
Accounts Officer	1	40,000	720,000
Sales and Marketing Manager	1	60,000	720,000
Sales and Marketing Officers	2	40,000	960,000
Store Incharge (Raw Material)	1	40,000	480,000
Store Incharge (Finished Goods)	1	40,000	480,000
Office Boy	2	22,000	528,000
Drivers	1	22,000	264,000
Security Guards (Day & Night)	4	22,000	1,056,000
Total			**6,408,000**

Table 36: License, Permits, etc.

Cost Item	No.	Fee (PKR)	Total Cost (PKR)
Food Authority Fee	1	20,000	20,000
Employees Social Security Institution	23	1,000	23,000
Pakistan Standards & Quality Control Authority (PSQCA	4	10,000	40,000
Total Cost (PKR)			**83,000**

License, Permits, etc. are expense out annually as it is fixed as per the rules. The license fees for food authority may differ in different provinces. Punjab Food Authority license is PKR 13,000.

Table 37: Fixed Cost Assumption

Description of Costs	Rate	Rationale
Promotional expense	6%	of revenue
Bad Debt expense	0.5%	of revenue
Administration benefits expense	5%	of administration expense
Depreciation		
Building	10%	of Building Renovation Cost
Machinery and Equipment	15%	of Cost
Office Equipment/Office Vehicle/Furniture and Fixture	15%	of Cost

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 38.

Table 38: Financial Feasibility Analysis

Description	Project
IRR	71%
NPV (PKR)	259,218,233
Payback Period (years)	2.54
Projection Years	10
Discount Rate used for NPV	15%

9.7. Financial Feasibility with 50% Debt Financing

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 39.

Table 39: Financial Feasibility Debt Financing

Description	Project
IRR	71%
NPV (PKR)	295,582,742
Payback Period (years)	2.55
Projection Years	10
Discount Rate used for NPV	13%

9.8. Human Resource Requirement

For the 1st year of operations, the human resource requirements are projected in Table 40.

Table 40: Human Resource Requirement

Post	No.of Employees	Monthly Salary (PKR)	Annual Salary (PKR)
Production Manager	1	80,000	960,000
Production Supervisor	1	60,000	720,000
Labour-Skilled	5	35,000	2,100,000
Labor Unskilled	12	25,000	3,600,000
Admin & HR Manager	1	60,000	720,000
Accounts Manager	1	60,000	720,000
Accounts Officer	1	40,000	480,000
Procurement Officer	1	40,000	480,000
Quality Controller	1	40,000	480,000
Sales and Marketing Manager	1	60,000	720,000
Sales and Marketing Officers	2	40,000	960,000
Store Incharge (Raw Material)	1	40,000	480,000
Store Incharge (Finished Goods)	1	40,000	480,000
Office Boy	2	22,000	528,000
Drivers	1	22,000	264,000
Security Guards (Day + Night)	4	22,000	1,056,000
Total	**36**		**14,748,000**

10. CONTACT DETAILS

Details of suppliers of machinery and equipment for the proposed business are provided in Table 41.

Table 41: Contact Details

Name of Supplier / Manufacturer	City/ Country	Contact No.	Email Address/ Website
Jiangxi Jingye Machinery Technology Co, Ltd	Machinery	0086-13767079770	www.cnjymachine.com
Thaiokable Company Limited	Machinery	091-009-8903	www.thaiokable.co.th/en

Aanal Industries	Machinery	+91-8048563297	www.indiamart.com/aanal-industries
Abdullah Sugar Mills Limited (Okara)	Sugar	0307 6805452	www.hwgc.com.pk/abdulla_sugar_mill.htm
Khazana Sugar Mills Limited (Peshawar)	Sugar	0308 9486811	
Baba Farid Sugar Mills Limited (Lahore)	Sugar	042 35771066	https://bfsml.com/
Canadian Syrup Inc (Canada)	Maple Flavor	+1 506-756-2373	http://www.canadianmaplesyrup.com/
La Ferme Martinette (Canada)	Maple Flavor	819 849-7089	https://www.finemapleproducts.com/
Rafhan Maize Products Company Ltd (Lahore)	Corn Flour	(041) 8540121	www.rafhanmaize.com
Paradise Trading Company (Karachi)	Corn Flour	(92-21) 2214176	https://www.paradisetrading-ltd.com/
Quality Flavors (Pvt) Ltd (Lahore)	Flavors	0317 1703093	www.quality-flavors.com
Synarome Manufacturing Co. (Pvt.) Ltd (Lahore)	Sodium Benzoate	0321 4167500	www.synarome.pk
Wellaxa (Rawalpindi)	Sodium Benzoate	0306 5208900	https://www.wellaxa.com/
Engredyan (Karachi)	Sodium Benzoate & Flavors	03482627231	https://www.engredyan.com/

11. USEFUL LINKS

Table 42: Useful Links

Name of Organization	Website
Small and Medium Enterprises Development Authority (SMEDA)	www.smeda.org.pk
National Business Development Program (NBDP)	www.nbdp.org.pk
Government of Punjab	www.punjab.gov.pk
Government of Sindh	www.sindh.gov.pk
Government of Balochistan	www.balochistan.gov.pk

Government of Khyber Pakhtunkhwa	www.kp.gov.pk
Government of Azad Jammu and Kashmir	www.ajk.gov.pk
Government of Gilgit Baltistan	www.gilgitbaltistan.gov.pk
Punjab Food Authority	www.pfa.gop.pk
Sindh Food Authority	www.sfa.gos.pk
Food Department Government of Balochistan	www.balochistan.gov.pk/tender-categories/food-department/
Food Safety and Halal Food Authority Khyber Pakhtunkhwa	www.kpfsa.gov.pk
Food Department of Azad Jammu and Kashmir	www.ajk.gov.pk
Food Department of Gilgit Baltistan	www.gilgitbaltistan.gov.pk
Small Industries Development Board, Khyber Pakhtunkhwa	https://small_industries_de.kp.gov.pk/
Punjab Small Industries Corporation	https://www.psic.gop.pk/
Sindh Small Industries Corporation	https://ssic.gos.pk/
Directorate of Small Industries Balochistan	http://www.dgicd.gob.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										
Revenue-Maple Syrup (PKR)	67,270,400	87,407,648	108,047,236	132,213,651	160,437,998	193,326,110	231,568,625	275,952,381	327,373,302	386,850,962
Revenue-Strawberry Syrup(PKR)	24,803,200	32,227,984	39,837,985	48,748,359	59,154,929	71,281,071	85,381,430	101,746,119	120,705,474	142,635,420
Revenue-Vanilla Syrup (PKR)	31,004,000	40,284,980	49,797,482	60,935,449	73,943,661	89,101,339	106,726,787	127,182,648	150,881,842	178,294,276
Revenue-Blueberry Syrup(PKR)	12,429,200	16,149,854	19,963,323	24,428,425	29,643,290	35,719,854	42,785,724	50,986,278	60,487,053	71,476,429
Total Revenue	**135,506,800**	**176,070,466**	**217,646,026**	**266,325,884**	**323,179,878**	**389,428,374**	**466,462,566**	**555,867,427**	**659,447,670**	**779,257,087**
Cost of sales										
Raw Material- Maple Syrup	53,778,383	64,104,027	72,807,784	81,993,904	91,728,167	102,084,712	113,147,045	125,009,183	137,776,917	151,569,231
Raw Material- Strawberry Syrup	23,820,848	30,636,114	37,484,259	45,400,705	54,531,137	65,039,750	77,111,490	90,954,575	106,803,304	124,921,197
Raw Material- Vanilla Syrup	9,257,891	11,906,620	14,568,128	17,644,827	21,193,338	25,277,474	29,969,114	35,349,182	41,508,736	48,550,192
Raw Material- Blueberry Syrup	1,333,291	1,714,752	2,098,053	2,541,149	3,052,194	3,640,378	4,316,052	5,090,872	5,977,950	6,992,037
Bottle Cost	3,411,360	4,387,367	5,368,083	6,501,790	7,809,350	9,314,278	11,043,060	13,025,514	15,295,195	17,889,840
Label Cost	368,000	473,287	579,081	701,380	842,433	1,004,776	1,191,269	1,405,126	1,649,967	1,929,864
Cartons packing cost	2,127,040	2,735,597	3,347,090	4,053,975	4,869,260	5,807,608	6,885,532	8,121,626	9,536,810	11,154,615
Other Consumables	262,170	288,562	317,610	349,583	384,774	423,508	466,142	513,067	564,715	621,563
Direct Utilities Cost	871,428	950,176	1,036,040	1,129,663	1,231,747	1,343,056	1,464,424	1,596,759	1,741,053	1,898,386
Direct Labor	8,340,000	9,148,980	10,036,431	11,009,965	12,077,931	13,249,491	14,534,691	15,944,556	17,491,178	19,187,823
Machinery Maintenance - Cost	607,350	668,490	735,785	809,854	891,379	981,111	1,079,876	1,188,584	1,308,234	1,439,930
Fuel Cost-Generator	348,571	418,331	502,051	602,527	723,111	867,827	1,041,506	1,249,943	1,500,094	1,800,308
Water expense	136,454	191,354	255,284	337,140	441,535	574,212	742,309	954,691	1,222,350	1,558,905
Total cost of sales	104,662,786	127,623,656	149,135,681	173,076,461	199,776,358	229,608,181	262,992,510	300,403,677	342,376,503	389,513,892
Gross Profit	30,844,014	48,446,810	68,510,345	93,249,423	123,403,520	159,820,193	203,470,056	255,463,750	317,071,167	389,743,195
General administration & selling expenses										
Management Staff	6,408,000	7,029,576	7,711,445	8,459,455	9,280,022	10,180,184	11,167,662	12,250,925	13,439,265	14,742,874
Administration benefits expense	737,400	808,928	887,394	973,471	1,067,898	1,171,484	1,285,118	1,409,774	1,546,522	1,696,535
Building rental expense	2,400,000	2,640,000	2,904,000	3,194,400	3,513,840	3,865,224	4,251,746	4,676,921	5,144,613	5,659,074
Indirect Utilities	343,576	374,624	408,478	445,390	485,639	529,524	577,376	629,551	686,442	748,473
License,Permits,etc.	83,000	91,355	100,552	110,674	121,815	134,078	147,575	162,431	178,782	196,780
Communications expense (phone,mail, internet, etc.)	320,400	351,479	385,572	422,973	464,001	509,009	558,383	612,546	671,963	737,144
Office vehicles running expense	386,633	425,554	468,393	515,545	567,443	624,565	687,438	756,641	832,809	916,645
Office expenses (stationery, entertainment, etc.)	448,560	492,070	539,801	592,162	649,602	712,613	781,736	857,565	940,749	1,032,001
Promotional expense	8,130,408	10,564,228	13,058,762	15,979,553	19,390,793	23,365,702	27,987,754	33,352,046	39,566,860	46,755,425
Depreciation expense	961,173	961,173	961,173	961,173	961,173	961,173	689,698	1,671,943	1,671,943	1,671,943
Amortization of pre-operating costs	1,071,324	1,071,324	1,071,324	1,071,324	1,071,324	-	-	-	-	-
Bad debt expense	677,534	880,352	1,088,230	1,331,629	1,615,899	1,947,142	2,332,313	2,779,337	3,297,238	3,896,285
Subtotal	21,968,008	25,690,663	29,585,123	34,057,749	39,189,448	44,000,699	50,466,799	59,159,680	67,977,187	78,053,179
Operating Income	8,876,006	22,756,147	38,925,222	59,191,674	84,214,072	115,819,494	153,003,256	196,304,071	249,093,981	311,690,016
Gain / (loss) on sale of machinery & equipment	-	-	-	-	-	-	506,125	-	-	
Gain / (loss) on sale of office equipment	-	-	-	-	-	-	552,750	-	-	
Gain / (loss) on sale of office vehicles	-	-	-	-	-	-	83,500	-	-	
Earnings Before Interest & Taxes	8,876,006	22,756,147	38,925,222	59,191,674	84,214,072	115,819,494	154,145,631	196,304,071	249,093,981	311,690,016
Earnings Before Tax	8,876,006	22,756,147	38,925,222	59,191,674	84,214,072	115,819,494	154,145,631	196,304,071	249,093,981	311,690,016
Tax	2,226,602	7,084,651	12,743,828	19,837,086	28,594,925	39,656,823	53,070,971	67,826,425	86,302,893	108,211,506
NET PROFIT/(LOSS) AFTER TAX	**6,649,404**	**15,671,496**	**26,181,395**	**39,354,588**	**55,619,147**	**76,162,671**	**101,074,660**	**128,477,646**	**162,791,087**	**203,478,510**

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	1,421,829	3,109,128	7,325,505	13,505,943	21,649,586	31,194,554	32,976,504	47,639,196	65,644,998	154,914,019
Accounts receivable	-	16,938,350	22,008,808	27,205,753	33,290,735	40,397,485	48,678,547	58,307,821	69,483,428	82,430,959	68,978,995
Equipment spare part inventory	50,613	61,037	73,608	88,769	107,052	129,101	155,691	187,758	226,429	273,065	-
Raw material inventory	11,830,733	14,372,128	16,647,167	19,131,207	21,852,750	24,843,919	28,140,896	31,784,416	35,820,319	40,300,157	-
Finished goods inventory		4,360,949	5,317,652	6,213,987	7,211,519	8,324,015	9,567,008	10,958,021	12,516,820	14,265,688	16,229,746
Total Current Assets	12,881,345	37,154,293	47,156,365	59,965,221	75,968,000	95,344,106	117,736,695	134,214,520	165,686,192	202,914,867	240,122,760
Fixed assets											
Land	-	-	-	-	-	-	-	-	-	-	-
Building Renovarion Cost	1,467,475	1,320,728	1,173,980	1,027,233	880,485	733,738	586,990	440,243	293,495	146,748	-
Machinery & equipment	2,024,500	1,720,825	1,417,150	1,113,475	809,800	506,125	202,450	3,837,664	3,262,014	2,686,365	2,110,715
Furniture & fixtures	860,000	731,000	602,000	473,000	344,000	215,000	86,000	1,630,225	1,385,691	1,141,158	896,624
Office vehicles	334,000	283,900	233,800	183,700	133,600	83,500	33,400	508,883	432,551	356,218	279,886
Office equipment	2,211,000	1,879,350	1,547,700	1,216,050	884,400	552,750	221,100	4,191,195	3,562,516	2,933,837	2,305,157
Security against building	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000
Total Fixed Assets	7,496,975	6,535,803	5,574,630	4,613,458	3,652,285	2,691,113	1,729,940	11,208,210	9,536,267	7,864,325	6,192,382
Intangible assets											
Pre-operation costs	5,356,622	4,285,297	3,213,973	2,142,649	1,071,324	-	-	-	-	-	-
Legal, licensing, & training costs	-	-	-	-	-	-	-	-	-	-	-
Total Intangible Assets	5,356,622	4,285,297	3,213,973	2,142,649	1,071,324	-	-	-	-	-	-
TOTAL ASSETS	**25,734,942**	**47,975,393**	**55,944,967**	**66,721,327**	**80,691,609**	**98,035,218**	**119,466,635**	**145,422,729**	**175,222,459**	**210,779,192**	**246,315,142**
Liabilities & Shareholders' Equity											
Current liabilities											
Accounts payable		15,591,047	19,049,576	22,315,463	25,943,912	29,984,325	34,492,382	39,530,802	45,170,201	51,490,048	52,063,844
Total Current Liabilities	-	15,591,047	19,049,576	22,315,463	25,943,912	29,984,325	34,492,382	39,530,802	45,170,201	51,490,048	52,063,844
Other liabilities											
Total Long Term Liabilities	-	-	-	-	-	-	-	-	-	-	-
Shareholders' equity											
Paid-up capital	25,734,942	25,734,942	25,734,942	25,734,942	25,734,942	25,734,942	25,734,942	25,734,942	25,734,942	25,734,942	25,734,942
Retained earnings		6,649,404	11,160,450	18,670,922	29,012,755	42,315,951	59,239,311	80,156,986	104,317,316	133,554,202	168,516,356
Total Equity	25,734,942	32,384,346	36,895,392	44,405,864	54,747,697	68,050,893	84,974,253	105,891,928	130,052,258	159,289,144	194,251,298
TOTAL CAPITAL AND LIABILITIES	**25,734,942**	**47,975,393**	**55,944,967**	**66,721,327**	**80,691,609**	**98,035,218**	**119,466,635**	**145,422,729**	**175,222,459**	**210,779,192**	**246,315,142**

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		6,649,404	15,671,496	26,181,395	39,354,588	55,619,147	76,162,671	101,074,660	128,477,646	162,791,087	203,478,510
Add: depreciation expense		961,173	961,173	961,173	961,173	961,173	961,173	689,698	1,671,943	1,671,943	1,671,943
amortization of pre-operating costs		1,071,324	1,071,324	1,071,324	1,071,324	1,071,324	-	-	-	-	-
Accounts receivable		(16,938,350)	(5,070,458)	(5,196,945)	(6,084,982)	(7,106,749)	(8,281,062)	(9,629,274)	(11,175,608)	(12,947,530)	13,451,964
Equipment inventory	(50,613)	(10,424)	(12,571)	(15,161)	(18,283)	(22,049)	(26,590)	(32,067)	(38,671)	(46,636)	273,065
Raw Material Iventory	(11,830,733)	(2,541,395)	(2,275,039)	(2,484,040)	(2,721,543)	(2,991,168)	(3,296,977)	(3,643,521)	(4,035,902)	(4,479,839)	40,300,157
Finished Goods Iventory		(4,360,949)	(956,703)	(896,334)	(997,533)	(1,112,496)	(1,242,993)	(1,391,014)	(1,558,799)	(1,748,868)	(1,964,058)
Accounts payable		15,591,047	3,458,529	3,265,887	3,628,449	4,040,413	4,508,056	5,038,420	5,639,399	6,319,847	573,796
Cash provided by operations	(11,881,345)	421,829	12,847,750	22,887,299	35,193,193	50,459,594	68,784,279	92,106,903	118,980,008	151,560,004	257,785,377
Financing activities											
Issuance of shares	25,734,942	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing ac	25,734,942	-	-	-	-	-	-	-	-	-	-
Investing activities											
Capital expenditure	(12,853,597)	-	-	-	-	-	-	(10,167,967)	-	-	-
Cash (used for) / provided by investing ac	(12,853,597)	-	-	-	-	-	-	(10,167,967)	-	-	-
NET CASH	**1,000,000**	**421,829**	**12,847,750**	**22,887,299**	**35,193,193**	**50,459,594**	**68,784,279**	**81,938,935**	**118,980,008**	**151,560,004**	**257,785,377**

13. KEY ASSUMPTIONS

13.1. Operating Cost Assumptions

Table 43: Operating Cost Assumptions

Description	Details
Furniture and fixture depreciation	15%
Vehicle depreciation	15%
Office equipment depreciation	15%
Inflation rate	10.1%
Wage growth rate	9.7%
Gas price growth rate	9.0%
Electricity price growth rate	9.0%
Office equipment price growth rate	9.6%
Office vehicle price growth rate	6.2%

13.2. Revenue Assumptions

Table 44: Revenue Assumptions

Description	Details
Sale price growth rate	10.1%
Initial capacity utilization	40%
Capacity growth rate	5%
Maximum capacity utilization	90%

13.3. Financial Assumptions

Table 45: Financial Assumptions

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

13.4. Debt-Related Assumption

Table 46: 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 Assumption

Table 47: Cash Flow Assumption

Description	Days
Accounts receivable cycle	35
Accounts payable cycle	40

Small and Medium Enterprises Development Authority

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