

# Pre-Feasibility Study

## BAKERY AND CONFECTIONERY



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## 1 INTRODUCTION TO SMEDA

The Small and Medium Enterprise Development Authority (SMEDA) was established with the objective to provide fresh impetus to the economy through the launch of an aggressive SME support program.

Since its inception in October 1998, SMEDA had adopted a sectoral SME development approach. A few priority sectors were selected on the criterion of SME presence. In depth research was conducted and comprehensive development plans were formulated after identification of impediments and retardants. The all-encompassing sectoral development strategy involved recommending changes in the regulatory environment by taking into consideration other important aspects including finance, marketing, technology and human resource development.

SMEDA has so far successfully formulated strategies for sectors including, fruits and vegetables, marble and granite, gems and jewelry, marine fisheries, leather and footwear, textiles, surgical instruments, transport and dairy. Whereas the task of SME development at a broader scale still requires more coverage and enhanced reach in terms of SMEDA's areas of operation.

Along with the sectoral focus a broad spectrum of business development services is also offered to the SMEs by SMEDA. These services include identification of viable business opportunities for potential SME investors. In order to facilitate these investors, SMEDA provides business guidance through its help desk services as well as development of project specific documents. These documents consist of information required to make well-researched investment decisions. Pre-feasibility studies and business plan development are some of the services provided to enhance the capacity of individual SMEs to exploit viable business opportunities in a better way.

This document is in the continuation of this effort to enable potential investors to make well-informed investment decisions.

## 2 PURPOSE OF THE DOCUMENT

The objective of the pre-feasibility study is primarily to facilitate potential entrepreneurs in project identification for investment. The project pre-feasibility may form the basis of an important investment decision and in order to serve this objective, the document/study covers various aspects of project concept development, start-up, production, marketing, finance and business management. The document also provides sectoral information, brief on government policies and international scenario, which have some bearing on the project itself.

This particular pre-feasibility is regarding "Bakery & Confectionery". Before studying the whole document one must consider following critical aspects, which form the basis of any investment decision.

### 3 CRUCIAL FACTORS & STEPS IN DECISION MAKING FOR INVESTMENT

Before making any investment decision, it is advisable to evaluate the associated risk factors by taking into consideration certain key elements. For starting a Bakery & Confectionery critical factors that should be considered before the launch of the project are described below:

- Number of customers to the Bakery & Confectionery will determine the financial success of the project. The entrepreneur should analyze the minimum percentage of population that it will have to mobilize out of the total population to achieve a steady flow of customers to the Bakery & Confectionery. In order to do this, the entrepreneur should analyze existing competing Bakery & Confectionery businesses in the target city.
- Looking at the size of investment and potential Bakery & Confectionery, it is advised that the facility be set up in those cities of the country that have a population to cover the proposed production of this business.
- Another aspect linked with the revenue generating capacity of the project is the spending pattern of the potential customers in a specific city. Average per capita income in Pakistan is USD 432/yr (i.e. Rs. 69/day), which is very low but it is observed that now people are consuming more junk food. Also international food chains are looking at our country as potential market.
- Selection of right location for an outlet is an important factor in the popularity of any Bakery & Confectionery. Initially 2 outlets are planned and in future new outlets will be added so as to capture the desired targeted population. In such a case it is recommended to study in detail the market situation, consumer behaviors and growing trends of Bakery & Confectionery items. Middle class and lower middle class areas are hot sale points. It is a general observation in Pakistan that every celebration is accompanied with sweets and cakes. It is recommended that the final selection of products should be inline with the targeted market segment and should have a balance of the various traditional and cultural items. Introduction of new categories of sweets like, Arabic and Iranian sweets along with various varieties of cakes and general items are advisable. It is also suggested to introduce a new variety of cakes every month declaring it *cake of the month*.
- In addition to above stated products, provision of other general items for the customers also plays a major role in the popularity of the Bakery & Confectionery. General items include drinks, eggs, chocolates, candies, jams, jellies, ice creams and related products. For every Bakery and Confectionery general items play a vital role in sales revenue. Adequate provision for a sitting area is also advisable.

Once an entrepreneur has decided to go ahead with the project, a systematic approach to implementing the project is recommended. A standard set of steps involved in the implementation of a Bakery & Confectionery with estimated time required for each activity is given below:

**Table 3-1 Project Plan**

<b>Activities</b>	<b>Time (Months)</b>
Pre-design and feasibility	1
Master plan and budget preparation	1
Project layouts and design	2
Manufacturing and construction	3
Pre-opening operations	2
<b>Total</b>	<b>9</b>

This is the total extent to the work involved in the project conception, design and implementation phase. Moreover, some of the activities listed above can also be carried out in parallel.

## 4 PROJECT PROFILE

### 4.1 Project Brief

The proposed project presents an investment opportunity in setting up a Bakery & Confectionery. Major products in this case would be cakes, snacks, sweets & nimko, biscuits, bread and general items. In order to attract a cross section of population, a combination of 2 outlets, one in a low-income area and another in a posh area, is used in this study along with 27% sales to other bakeries at trade discount of 15 %. This combination can however, vary according to the final site selection and amount of investment being incurred by individual investor. Although for this particular project study only Bakery & Confectionery items along with general items are included, however, bread production unit covering bread, bun, and rusk and allied items is not incorporated in this study. The reason being that bread production unit in itself is a complete unit and requires heavy investment. Almost all the Bakers & Confectioners purchase bread items from specialized bread-manufacturing units.

### 4.2 Project Capacity and Rationale

Project Capacity can not be based on machinery capacity, as the same oven will be having different capacities for different products. This business segment is labor intensive. The proposed bakery outlet will be working from 6.00-am morning to 12.00 midnight. These outlets determine the factory timing for production. It is proposed that 2 shifts are necessary for production. The interesting fact is that these two shifts include only 3 or 4 pure working hours. Main plant & machinery includes oven in which different items are baked with different temperatures and different baking timings. Industrial ovens are easily available in market. For the proposed project, oven of 7x7x10 feet with 8 rotating stands having 5 trays on each stand is used. So the oven capacity will be:

- 60-kg biscuits in 30 baking minutes at a temperature of 150 degree centigrade.
- 120 pieces of large Pizza in 20-25 minutes at a temperature of 150 -180 degree centigrade.

Number of working days has been taken as 365 with average 2 shifts per day.

Initial Capacity of the Bakery & Confectionery is calculated on the basis of total expected sales of items. Maximum sales are expected in festival months and in winter or spring season.

However, in order to calculate average monthly sales, potential revenue is estimated by using the potential demand estimates. The estimated combination of sales is as given below:

1. 73% sales to own outlets.
2. 27% sales to other bakeries

It is expected that annual increase in sales would be 5%. Although due diligence is carried out in estimating these numbers, the final outcome will vary depending on the selection of location, pricing, product mix and the marketing strategies.

### 4.3 Project Investment

Total cost of the project worked out is in the table below:

**Table 4-1 Project Costs**

Capital Investment		Rs. 23,410,000
Working Capital Requirement		Rs. 2,192,000
<b>Total Investment</b>		<b>Rs. 25,602,000</b>

The proposed pre-feasibility is based on the assumption of 50% debt and 50% equity (including land). However this composition of debt and equity can be changed as per the requirement of the investor.

**Table 4-2 Project Financing**

Debt	50%	Rs. 12,801,000
Equity	50%	Rs. 12,801,000
<b>Total Project Investment</b>		<b>Rs. 25,602,000</b>

**Table 4-3 Viability**

IRR		16%
NPV @20%		Rs. 9,260,000
Pay Back Period (years.)		5.22

### 4.4 Proposed Product Mix

This pre-feasibility is developed for a project based on a production plant along with 2 outlets and outside sales with a mix of city areas. Selection and number of outlets would totally depend upon the mix of target population. For example if we start this venture in bigger cities, one might select more sophisticated outlets with the emphasis on best decor and interior design. But in case of smaller cities, one would prefer to go for a mix, which has more traditional products. It is also recommended to change the mix of both bakery and general items according to sale trends of a particular outlet. In this study it is assumed that 30% sales will be consisting of general items but this combination would be different in different outlets and according to consumer behaviors.

### 4.5 Proposed Business Legal Status

A bakery business can be started as a sole proprietorship or a partnership and even it can be registered under company law with Securities and Exchange Commission of Pakistan. Although selection totally depends upon the choice of the entrepreneur but this feasibility is based on a Sole Proprietorship. For getting information on the formation of type of firm/company, please visit the Website:

[www.saarcnet.org/news/saarcnet/govtpolicies/Pakistan/settingbusiness.html](http://www.saarcnet.org/news/saarcnet/govtpolicies/Pakistan/settingbusiness.html).

<http://www.secp.gov.pk/Guides/PromotersGuide.pdf>

#### 4.6 Financial Summary

The financial cost of the project can be surmised as under:

**Table 4-4 Financial Summary**

Debt Equity Split	50:50
Projected Life	10 years
Repayment of long term loan	5 years
Grace period for long term loan	1 year
Mark up rate for long term loan	14%

#### 4.7 Proposed Location

Any big city with a total population of over 1 million is the ideal location for the project. Ultimately it has to be observed that how to compete and build the name of the Bakery & Confectionery. Areas like Defence, Gulberg, Model Town need heavy investment and areas like Saman Abad, Allama Iqbal Town, Johar Town and Old City needs more traditional varieties of foodstuff.

For a heavy competition and proper positioning of the brand name, one has to open outlets in the vicinity of competitors (Gourmet, Shezan Bakers, Rahat Bakers, United Bakery, Cakes & Bakes etc.). This will be a direct marketing of the brand name for the best quality and the best competitive price.

Marketers need to determine where the product will be sold and methods of distribution including transportation and storage.

Also for taste/enjoyment consumers are demanding a higher standard of food quality. Value for money and choice and exposure to new foods both have resulted in demand for diversity in terms of food varieties and uses. Food safety is a major issue around the world and consumers are looking for fresh and hygienic foods and which are made from natural products (i.e. free of preservatives).

#### 4.8 Opportunity Rationale

The opportunity of setting up the Bakery & Confectionery can be linked with the eating habits of the people. People in Pakistan enjoy the traditional food very well but recently world known food chains have brought cultural change in Pakistan. Now people are ready to eat junk food, While closely observing the trends, Bakery & Confectionery chain can play an important role in this new era as it is the only source which provides not only traditional bakery items but also new lines and varieties of confectionery items.

#### 4.9 Market Entry Timing

As the main decisive factors in this case are events and season, the investor will have to match the timings with these two limitations. Especially to open a bakery chain before Eid is advisable. The peaks can be classified as winter/ spring and Off Peaks as summer.

#### **4.10 Key Success Factors/Practical Tips for Success**

Some of the Key Success factors that will determine the success of this project include:

- Products range selection and introduction of sitting areas.
- Quality and Innovation in products.
- Selection of location.
- Pricing strategy.
- Understanding of target customers, alternative availability (product differentiation).
- Launching time.
- Hygienic conditions.

#### **4.11 Strategic Recommendations**

##### *4.11.1 Marketing*

Marketing and branding of Bakery & Confectionery will play a key role in the mobilization of targeted number of customers. Major marketing options include, site advertisement, cable ads and handbills among other traditional marketing channels. Before launch of the project, it is recommended that a research for understanding the dynamics of the targeted market should also be carried out, to design the products as well as the promotional strategy.

The basic principle of marketing is to sell the right product, at the right price and promote it in the right place to the right people. The job of the marketer is to control these 4Ps.

However, there are other socioeconomic factors, which also affect the production, selling and consumption of foods. The success of marketing is often determined by the extent to which various socio-economic factors are considered. Market research is a useful tool for assessing the attitudes and behavior of potential consumers.

##### *4.11.2 Pricing*

The following factors determine the price of the product:

- Positioning of the product
- Cost of developing and manufacturing the product.
- Cost of competitive products.
- Condition of the economy.

##### *4.11.3 New Products development*

Food manufacturers develop new products to maintain and improve their market position. New products can include:

- New varieties and flavors - these are called “line extensions” where different varieties or flavors of the same product are produced.
- Quality improvement of an existing product, either functional or nutritional.
- Copying a competitor's product.
- Developing a new, innovative product resulting from new ingredients, new packaging.

## 5 PRODUCT

The proposed bakery will be offering a large variety of quality products at competitive prices. The product line will be including different types of fresh cream cakes, dry cakes, snacks, sweets and nimko and biscuits. As the production will depend on the sales potential, the sales are estimated depending upon the industry norms. The project will be having two sales outlets of its own and the rest of the production will be sold to other bakeries. It is hereby assumed that sales to other bakeries will at a trade discount of 15%. Out of the total sales 27% will be sold to other bakeries while 73% of the total sales will be sold on bakery's own outlets. Proposed sales for the first year are as under:

**Table 5-1 Estimated Sales**

	Percentage Sales	Amount of Sales (Rs.)
Sales on outlets	73%	21,312,000 <sup>1</sup>
Sales to other bakeries	27%	8,339,000
<b>Total Estimated Sales</b>	<b>100%</b>	<b>29,650,000</b>

Total sales incorporated for profit estimates include 5% safety margins.

The detail of expected annual sales of different items is given in the table below.

**Table 5-2 Annual Sales**

Items	% <sup>2</sup>	Quantity to be sold		Total Amount	
		Outlets	Other bakeries	Amount from outlets	Amount from other Bakeries
<b>Fresh Cream Cakes</b>	<b>7%</b>				
Fresh cream (lbs.)		13,406	10,114	1,474,704	945,622
Fresh fruit(lbs.)		4,309	3,251	474,012	303,950
Chocolate Cakes(lbs.)		3,591	2,709	395,010	253,292
Butter cream cakes(lbs.)		359	271	35,910	23,027
Special ice cream cake (lbs.)		958	722	105,336	67,544
<b>Total Revenue from Cream Cakes</b>				<b>2,484,972</b>	<b>1,593,434</b>
<b>Fresh Pastries</b>	<b>21%</b>				
Fresh & Chocolate pastries(Pcs.)		81,900	35,217	560,196	359,213
Donut (Pcs.)		6,300	2,709	43,092	27,632
Cream puff(Pcs.)		20,580	8,849	140,767	90,264
Cream roll(Pcs.)		8,820	3,793	60,329	38,685

<sup>1</sup> Sales on outlet includes sales of general items worth Rs.5, 146,495(30%of total sales).

<sup>2</sup> All the percentages have been taken of total production in factory

<b>Total Revenue from Fresh Pastries</b>				<b>804,384</b>	<b>515,794</b>
<b>Bread (Outsourced)<sup>3</sup></b>					
Bread, Bun, Rusk Etc.				2,014,800	
<b>Total Revenues from Bread</b>				<b>2,014,800</b>	
<b>Dry cakes</b>	<b>9%</b>				
Dry cakes(lbs.)		11,970	9,030	1,197,000	767,550
Fruit cakes large(lbs.)		838	632	62,843	40,296
Fruit cakes small(lbs.)		5,626	4,244	213,784	137,084
Plain cakes large(lbs.)		1,245	939	80,917	51,886
Plain cakes small(lbs.)		10,222	7,712	337,339	216,311
<b>Total Revenue from Dry Cakes</b>				<b>1,891,882</b>	<b>1,213,128</b>
<b>Snacks</b>	<b>54%</b>				
Chicken pizza large(Pcs.)		2,730	1,174	217,854	139,694
Chicken pizza medium(Pcs.)		12,222	5,255	626,989	402,043
Chicken pizza small(Pcs.)		11,340	4,876	290,871	186,515
Chicken bread(Pcs.)		8,400	3,612	311,220	199,563
Chicken drum stick leg piece(Pcs.)		7,770	3,341	132,867	85,198
Chicken leg piece(Pcs.)		6,510	2,799	222,642	142,764
Chicken shami(Pcs.)		25,200	10,836	244,188	156,580
Chicken sandwich(Pcs.)		48,300	20,769	357,903	229,497
Chicken patties(Pcs.)		161,000	69,230	1,101,240	706,146
Chicken bread roll(Pcs.)		23,450	10,084	294,063	188,561
<b>Total Revenue from Snacks</b>				<b>3,799,837</b>	<b>2,436,562</b>
<b>Sweets &amp; Nimko</b>	<b>6%</b>				
Nimko(Kg.)		3,010	1,294	205,884	132,019
Jaman(Kg.)		9,188	3,951	837,900	537,285
Chum Chum(Kg.)		11,040	4,747	1,006,848	645,619
Kalakand(Kg.)		1,225	527	111,720	71,638
Burfi(Kg.)		6,300	2,709	574,560	368,424
Moti Choor(Kg.)		53	23	5,087	3,262
Piteesa(Kg.)		2,170	933	210,273	134,833
<b>Total Revenue from sweets and Nimko</b>				<b>2,952,272</b>	<b>1,893,080</b>
<b>Biscuits</b>	<b>3%</b>				

<sup>3</sup> It is assumed that bread items worth Rs. 83,950 per month per outlet will be sold.

Cake Rusk(Kg.)		4,900	2,107	530,670	340,281
White Biscuits(Kg.)		330	142	33,858	21,711
Coconut Biscuits(Kg.)		900	387	97,470	62,501
Macaroon Coconut(Kg.)		360	155	38,988	25,000
Almond Macaroon (Kg.)		700	301	75,810	48,612
Cheese Finger(Kg.)		225	97	24,368	15,625
Salty Zeera Plus(Kg.)		540	232	55,404	35,527
Plain Khatai(Kg.)		1,820	783	197,106	126,390
Baker Khani (Kg.)		1,230	529	126,198	80,922
Finger(Kg.)		2,340	1,006	240,084	153,949
Jam Wafer(Kg.)		525	226	53,865	34,540
Special Biscuit(Kg.)		770	331	83,391	53,473
Chocolate Biscuits(Kg.)		1,190	512	122,094	78,290
Round Almond Biscuit(Kg.)		700	301	75,810	48,612
<b>Total Revenue from Biscuits</b>				<b>1,755,116</b>	<b>1,125,429</b>
Total Sales				<b>15,703,263</b>	<b>8,777,427</b>
<b>Total Sales (Bakery Products)</b>					<b>24,480,689</b>
Sales of General Items on shops <sup>4</sup>					<b>6,729,970</b>
<b>Revenues for the first year</b>					<b>31,210,659</b>
Less: Safety Margin (5%)					1,560,533
<b>Amount Realized</b>					<b>29,650,126</b>

<sup>4</sup> Sales of general items are assumed to be 30% of the total sales on outlets only.

## 5.1 Raw Material

As the proposed bakery is going to offer a variety of products, a number of ingredients will be used for manufacturing bakery items. Some ingredients for basic items are listed below:

**Table 5-3 Plain Cakes**

Ingredients	Cost (Rs./kg.)
Butter	170
Sugar	34
Maida	15
Baking powder	52
Eggs (Rs./Pc.)	2
Flavour (Rs./Ltr.)	405

**Table 5-4 Nimko**

Ingredients	Cost (Rs./kg)
Baison	56
Peanuts	95
Channey	40
Nimko masala	50

**Table 5-5 Sweets**

Ingredients	Cost (Rs./kg)
Khoya	90
Maida	14
Eggs	2
Ghee	70
Sugar syrup (consisting of 35 kg sugar	19

**Table 5-6 Chicken Bread**

Ingredients	Cost (Rs./kg)
Maida	14
Oil (Rs./Ltr.)	90
Yeast	250
Sugar	19
Salt	8
Chicken	120
Onion	11
Masala	40
Cheese	155
Mayonnaise & Ketchup	93 – 53
Mix Vegetable	25

Due to a large range of products offered on the proposed bakery, it is not possible to list down the costing of each and every item. An approximate percentage is used for different items which is as under:

**Table 5-7 Raw Material Pricing<sup>5</sup>**

Raw Material for bakery items sales on outlets	30% of sales Price
Raw Material Purchases for sales to other bakeries	35% of discounted price
Purchase price of General Items	85% of sales price

## 6 TECHNOLOGY AND PROCESSES

The proposed project will be using local machinery or 2<sup>nd</sup> hand imported machinery available locally. Local machinery and installations are quite competitive in price in comparison to the foreign equipment and installations. Additionally, it is linked with the viability of the project as the foreign new machinery and installation would not be feasible due to the high costs involved.

Major suppliers of Local and used imported machinery are:

- Bakexcel Associates, Karachi
- Saeed Fabrication Works, Lahore

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<sup>5</sup> The raw material cost figure so extracted will be discounted to 95% as for safety margin.

## 6.1 Machinery Requirement

Plant and Machinery for the proposed project are stated below.

**Table 6-1 Machinery Details**

Machinery Item	Brand	No. of Items	Per Unit Cost (Rs.)	Total Cost (Rs.)
Flour Sifter	Local	1	100,000	100,000
Spiral Mixer	Local	1	275,000	275,000
Planetary Mixer	Local	3	100,000	300,000
Oven	Local	1	450,000	450,000
Dyes	Local	250	85	21,250
Sheeter	Imported	1	650,000	650,000
Burner	Local	2	20,000	40,000
Deep freezers	Local	2	18,000	36,000
Frier	Local	1	100,000	100,000
Packing machine	Local	2	50,000	100,000
Cold storage equipment	Local	1	550,000	550,000
Rolling racks	Local	10	12,000	120,000
Fixed racks	Local		175,000	175,000
Trays	Local	350	225	78,750
Tools & equipment knives others	Local		80,000	80,000
<b>Total Cost of Machinery</b>		<b>625</b>		<b>3,076,000</b>

The depreciation is charged at 10% p.a. on written down value.

## 6.2 Repair & Maintenance

Annual Repair & Maintenance of the plant and machinery is expected to be 1 % from Year 1 – 4 and 1.5 % from Year 5 – 10 of the total machinery cost.

## 6.3 Erection & Installation

Erections and installation cost is assumed to be 10% of the total cost of machinery.

## 6.4 Furniture and Fixtures

Following furniture and fixtures will be required for factory and sales outlets.

**Table 6-2 Details of Furniture and Fixtures**

Items	No. of Items	Cost per Items (Rs.)	Total Cost (Rs.)
<b>For Factory</b>			
Tables for production	4	30,000	120,000
Chairs tables & other furniture		200,000	200,000
Airconditioners	5	30,000	150,000
Vertical freezer	1	100,000	100,000
Electric installations & other utilities	1	100,000	100,000
Weighing scales	2	15,000	30,000
Micro wave oven	1	8,000	8,000
Computers & accessories		100,000	100,000
			<b>808,000</b>
<b>For 2 Outlets</b>			
Airconditioners	4	30,000	120,000
Cabinet chiller	2	100,000	200,000
Vertical freezer	2	32,000	64,000
Designer cost	2	50,000	100,000
Interior designing cost	2	360,000	720,000
Weighing scales	2	15,000	30,000
Cash register	2	25,000	50,000
Micro wave oven	2	8,000	16,000
Sign board	2	60,000	120,000
Electric installations & other utilities	2	20,000	40,000
			<b>1,460,000</b>
<b>Total Cost</b>			<b>2,268,000</b>

64% of the depreciation on furniture and fixtures will be charged to administrative and selling expenses.

## 6.5 Motor Vehicles

Alongwith the above mentioned machinery and equipment the proposed business will also be using two pick ups and one motorcycle. Each pick up will be costing around Rs. 589,000 while the motorcycle will be acquired for Rs. 40,000. Motor vehicles will be depreciated at 20% on written down value basis

## 7 LAND AND BUILDING REQUIREMENT

### 7.1 Land / covered area and construction cost

The proposed factory will be consisting of 9600 sq. ft. (43 Marlas) of land whereas the shop areas will be 900 sq. ft for each outlet. The rate of land is taken as Rs. 100,000 per marla The development charges are taken to be 10% of the land cost. Double story building is recommended, sweets, fresh cream and dry cake rooms are proposed to be on first floor. The details of the building and civil works is as below:

**Table 7-1 Land & Covered Area requirement**

Factory	Area (Sq. Ft.)	Cost (Rs./Sq. Ft.)	Total Cost (Rs.)
Sweets production room	1,200	600	720,000
Fresh cream cake production room	900	600	540,000
Dry cake production room	900	600	540,000
Biscuits production room	900	650	585,000
Snacks production room	900	650	585,000
Frying & Oven room	1,500	650	975,000
Dispatch & ware house	1,800	650	1,170,000
Raw material / store spares store	1,500	650	975,000
Compound	2,000	120	240,000
Admin block	1,000	750	750,000
<b>Construction Cost</b>	<b>12,600</b>		<b>7,080,000</b>
Land Cost (Rs./Marla)		200,000	8,600,000
<b>Total Cost</b>			<b>9,460,000</b>

### 7.2 Recommended Mode of Land Acquisition

It is recommended to purchase land & building for the factory. The total cost of acquisition of land has been included in fixed assets. Whereas the land for sales outlets will be acquired for rent. Approximately 900 square feet area is desirable for the outlet, which is easily available at about Rs.30, 000 per month.

### 7.3 Utilities Requirement

Main utilities would be gas, power and water. Distribution transformer station, loading capacity averaging 10 KW, 3-phase industrial meter is estimated to fulfill the requirement of power. B-1 category is advisable for electric consumption. Monthly gas consumption is estimated at 46 HM3 on average for the project. Water supply would be through local municipality.

## 8 HUMAN RESOURCE REQUIREMENT

For the bakery business, following direct labor will be required for the factory.

**Table 8-1 Factory wages and salaries**

Designation	No. of Employees	Monthly Salaries (Rs.)	Annual Salaries (Rs.)
Production manager	1	20,000	240,000
Production In charge	2	12,000	288,000
Production supervisor	2	7,000	168,000
Helpers	8	3,500	336,000
Dispatchers	1	3,500	42,000
Electrician	1	5,000	60,000
Mechanic	1	8,000	96,000
Drivers	1	4,500	54,000
Office Boys	2	3,500	84,000
Security guards	2	4,500	108,000
<b>Total Salaries</b>	<b>21</b>		<b>1,476,000</b>

Administrative staff for the feasibility is listed in the table below:

**Table 8-2 Administrative and Selling Staff**

Designation	No. of Employees	Monthly Salaries (Rs.)	Annual Salaries (Rs.)
Sales manager	1	15,000	180,000
Accountant	1	10,000	120,000
Asst. Accountant	1	6,000	72,000
<b>Total Salaries</b>	<b>3</b>		<b>372,000</b>

There will be two sales outlets. Details of the shop staff are given in the following table:

**Table 8-3 Shop Staff**

Designation	No. of Employees	Monthly Salaries (Rs.)	Annual Salaries (Rs.)
Cashier	2	6,000	288,000
Supervisor	1	5,000	120,000
Sales man	4	4,000	384,000
Sweeper	1	3,000	72,000
Security guard	1	4,500	108,000
<b>Total Salaries</b>	<b>9</b>		<b>972,000</b>

## 9 FINANCIAL ANALYSIS

### 9.1 Project Costs

<b>PROJECT COSTS</b>		
		Rs. (000)
	% age	Total
Land		9,460
Building and Civil Works		7,080
Plant and Machinery		3,076
Erection, installation & commissioning charges and duties		308
Furniture, fixture and office equipment		2,268
Motor vehicles		1,218
		<b>23,410</b>
Preliminary & preproduction expenses*		343
Contingencies**	5%	1,188
Net initial working capital		662
		<b>25,602</b>
<b>Debt Equity Ratio</b>		
Debt	50%	12,801
Equity	50%	12,801
		<b>25,602</b>
<b>Project Returns</b>		
IRR	%	<b>16%</b>
Pay Back Period	Yrs	<b>5.22</b>
NPV	Rs.	<b>9,260</b>
<i>Notes:</i>		
<i>* Preliminary expenses include insurance cost taken at 4% of machinery costs, pre-production salaries and wages around Rs. 200,000 and setting up costs around Rs. 20,000. They have been amortized for 5 years.</i>		
<i>** Contingencies are taken as 5% of the total costs and preliminary expenses</i>		

## 9.2 Projected Income Statement

Projected Income Statement											
	Rs. in Thousands										
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net Sales	-	29,650	31,781	33,236	34,763	36,367	39,061	41,970	45,113	48,506	52,172
Cost of sales											
Salaries, wages and benefits	-	1,476	1,550	1,627	1,709	1,794	1,884	1,978	2,077	2,181	2,290
Raw material purchases	-	12,828	13,697	14,609	15,566	16,571	18,260	20,085	22,055	24,182	26,480
Other production overheads	-	898	1,011	1,038	1,067	1,165	1,225	1,291	1,364	1,443	1,530
Fuel and power	-	511	537	564	592	621	652	685	719	755	793
Depreciation	-	1,127	1,014	913	822	740	735	662	596	536	482
	-	16,841	17,809	18,750	19,755	20,891	22,757	24,701	26,810	29,098	31,576
Gross Profit	-	12,809	13,972	14,486	15,008	15,475	16,304	17,270	18,302	19,409	20,596
Administrative & Selling Expenses											
Salaries, wages and benefits	-	1,344	1,411	1,482	1,556	1,634	3,018	3,169	3,327	3,494	3,668
Other Admin expenses	-	148	159	166	174	182	195	210	226	243	261
Amortization	-	69	69	69	69	69	-	-	-	-	-
Selling & related expenses	-	2,090	2,213	2,358	2,513	2,681	4,220	4,561	4,932	5,335	5,774
Depreciation	-	390	326	274	231	196	432	367	313	267	229
	-	4,040	4,178	4,349	4,543	4,760	7,865	8,306	8,797	9,338	9,932
Operating Profit	-	8,769	9,794	10,137	10,465	10,715	8,438	8,963	9,505	10,070	10,664
Non-Operating Expenses/Income											
Financial expenses	-	1,792	1,434	1,075	717	358	-	-	-	-	-
Other Income	-	593	636	665	695	727	781	839	902	970	1,043
	-	2,385	2,069	1,740	1,412	1,086	781	839	902	970	1,043
Profit Before Tax	-	6,384	7,724	8,397	9,053	9,629	7,657	8,124	8,603	9,100	9,620
Tax @ average	-	1,915	2,317	2,519	2,716	2,889	2,297	2,437	2,581	2,730	2,886
Profit After Tax	-	4,469	5,407	5,878	6,337	6,740	5,360	5,687	6,022	6,370	6,734
Retained earnings - opening	-	-	4,469	9,876	15,754	22,091	28,831	34,191	39,878	45,900	52,270
Retained earnings - closing	-	4,469	9,876	15,754	22,091	28,831	34,191	39,878	45,900	52,270	59,005

### 9.3 Projected Balance Sheet

Projected Balance Sheet											
	Rs. in Thousands										
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Fixed assets</b>											
Net book value	23,410	21,893	20,552	19,365	18,312	17,377	18,866	17,838	16,930	16,127	15,415
<b>Preliminary &amp; preproduction</b>	343	274	206	137	69	-	-	-	-	-	-
<b>Current assets</b>											
Raw Material	-	527	563	600	640	681	750	825	906	994	1,088
Packing Material	-	30	33	34	36	37	40	43	46	50	54
Stores and Spares	-	2	2	2	2	3	3	3	3	3	3
Finished goods	-	244	261	273	286	299	321	345	371	399	429
Trade Debtors- outside sales	-	160	171	179	187	196	211	226	243	262	281
Advances to suppliers	-	176	188	200	213	227	250	275	302	331	363
Cash & Bank	1,849	6,908	11,538	16,294	21,370	26,706	30,051	36,868	43,900	51,177	58,730
	1,849	8,047	12,756	17,583	22,734	28,150	31,627	38,586	45,772	53,215	60,948
	25,602	30,215	33,514	37,086	41,115	45,527	50,493	56,424	62,702	69,342	76,362
<b>Financed by :</b>											
<b>Share capital</b>	12,801	12,801	12,801	12,801	12,801	12,801	12,801	12,801	12,801	12,801	12,801
Retained earnings	-	4,469	9,876	15,754	22,091	28,831	34,191	39,878	45,900	52,270	59,005
	12,801	17,270	22,677	28,555	34,892	41,633	46,993	52,679	58,701	65,072	71,806
<b>Long term loans</b>	12,801	10,241	7,681	5,120	2,560	-	-	-	-	-	-
<b>Current liabilities</b>											
Trade Creditors											
Raw Material	-	527	563	600	640	681	750	825	906	994	1,088
Packing Material	-	30	33	34	36	37	40	43	46	50	54
Stores and Spares	-	2	2	2	2	3	3	3	3	3	3
Accrued & others	-	229	241	255	269	284	410	436	464	493	525
	-	788	839	891	946	1,006	1,203	1,307	1,419	1,540	1,670
Provision for Taxes	-	1,915	2,317	2,519	2,716	2,889	2,297	2,437	2,581	2,730	2,886
	25,602	30,215	33,514	37,086	41,115	45,527	50,493	56,424	62,702	69,342	76,362
	-	-	-	-	-	-	-	-	-	-	-

## 9.4 Projected Cash Flow Statement

Projected Cash Flow Statement											
	Rs. in Thousands										
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>											
Net profit	-	6,384	7,724	8,397	9,053	9,629	7,657	8,124	8,603	9,100	9,620
Amortization	-	69	69	69	69	69	-	-	-	-	-
Depreciation	-	1,517	1,341	1,187	1,053	935	1,167	1,029	908	803	712
<b>Current Assets movement</b>											
Raw Material	-	(527)	(36)	(37)	(39)	(41)	(69)	(75)	(81)	(87)	(94)
Packing Material	-	(30)	(2)	(1)	(2)	(2)	(3)	(3)	(3)	(3)	(4)
Stores and Spares	-	(2)	-	-	-	(1)	-	-	-	-	-
Finished goods	-	(244)	(18)	(12)	(13)	(13)	(22)	(24)	(26)	(28)	(30)
Trade Debtors- outside sales	-	(160)	(11)	(8)	(8)	(9)	(15)	(16)	(17)	(18)	(20)
Advances to suppliers	-	(176)	(12)	(12)	(13)	(14)	(23)	(25)	(27)	(29)	(31)
<b>Current Liabilities movement</b>											
Raw Material	-	527	36	37	39	41	69	75	81	87	94
Packing Material	-	30	2	1	2	2	3	3	3	3	4
Stores and Spares	-	2	-	-	-	1	-	-	-	-	-
Accrued & others	-	229	12	13	14	15	126	26	28	30	32
<b>Other adjustments</b>											
Tax paid	-	-	(1,915)	(2,317)	(2,519)	(2,716)	(2,889)	(2,297)	(2,437)	(2,581)	(2,730)
	-	7,619	7,190	7,317	7,636	7,896	6,002	6,817	7,032	7,277	7,553
<b>CASH FLOW FROM INVESTING ACTIVITIES</b>											
Additions in fixed assets	(23,410)	-	-	-	-	-	(2,657)	-	-	-	-
Preliminary & preproduction	(343)	-	-	-	-	-	-	-	-	-	-
	(23,753)	-	-	-	-	-	(2,657)	-	-	-	-
<b>CASH FLOW FROM FINANCING ACTIVITIES</b>											
Repayment											
Long term loan	12,801	(2,560)	(2,560)	(2,560)	(2,560)	(2,560)	-	-	-	-	-
<b>TOTAL INFLOW / (OUTFLOW) OF FUNDS</b>											
	(10,952)	5,059	4,630	4,756	5,076	5,336	3,345	6,817	7,032	7,277	7,553
Opening Cash	12,801	1,849	6,908	11,538	16,294	21,370	26,706	30,051	36,868	43,900	51,177
Closing Cash	1,849	6,908	11,538	16,294	21,370	26,706	30,051	36,868	43,900	51,177	58,730

## 10 KEY ASSUMPTIONS

**Table 10-1 Operating Assumptions**

No of Working Days in One Year	365
No. of Working Hours in One Day	8
No. of Shifts	2
No. of Outlets	2
Working Hours of Outlets	16

**Table 10-2 Revenue Assumptions**

<b>Outlet Sales</b>	<b>73% of the total production</b>
Bakery Sales	70% of shop sales
General Items Sales	30% of shop sales
<b>Outside Sales</b>	<b>27% of the total Production</b>

**Table 10-3 Expense and Growth Rates**

<b>Sales growth rate</b>	<b>5%</b>
Salaries, wages growth rates (as %age of annual Salaries and Wages)	5%
<b>Other Production Overheads</b>	
Repairs and Maintenance (as %age of Machinery Cost)	1.5%
Building Repair and Maintenance (as %age of Building Cost)	1.0%
Insurance and Freight(as %age of Machinery Cost)	4.0%
Packing Material (as %age of sales)	2.5%
<b>Fuel &amp; Power</b>	
Gas	
Avg. annual units consumed	549
Rate per Unit	Rs. 645
Annual rate Increase %	5%
Power & water	
Avg. annual units consumed	31,498
Rate per Unit	Rs. 5
Annual rate of Increase %	5%
Shop Rent per month Rs. (000)	30
Shop rent growth rate	10%

**Table 10-4 Cash Flow Assumptions**

<b>STOCK LEVELS</b>	
Raw Material Inventory	15 days
Packing Material Inventory	15 days
Stores and Spares Inventory	15 days
Finished goods inventory	3 days
Accounts Payable	15 days
<b>Accounts Receivable and Advances</b>	
Accounts Receivable	7 days
Advances to suppliers	5 days

**Table 10-5 Other Expense Assumptions**

Administrative Expenses(as % age of sales)	0.50%
Selling and Related Expenses	
Annual rent of 2 shops	Rs.720,000
Electricity	Rs.480,000
Others (as % age of sales)	3%
Amortization in Years	5
Other Income(as % age of sales)	2%