

Pre-Feasibility Study Raisin Production Unit



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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 financial aspects, niche marketing, technology up gradation 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, urban 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 pre-feasibility study is primarily to facilitate entrepreneurs in project identification for investment. The project pre-feasibility may form the bases of an important investment decision, in order to serve this objective, the document/study covers various aspects of project, concept development, start-up, production, finance and business management.

3 PROJECT PROFILE

3.1 Project brief

The proposed project is about establishing a Raisin Production Unit. The subject project is strongly recommended to be established in high grapes productive areas or in close vicinities. The respective facility existing in such environment can create a strong market in country. In addition the proposed product can also be exported if produced according to international quality standards. The prevalence of such facility would add economic benefits in the country and also

consume the abundant raw material that usually ends up as waste. Currently the project is being designed / proposed for major cities with potential grapes production but the same can be proposed for other cities which can fulfill input and logistic requirements of the project.

Initially it is proposed to attract domestic customers but at project's maturity, international customers could also be targeted. The main feature of the project would include hygienically produced raisins (dehydrated grapes up to 80-85%). Value addition will be done in form of quality processing, i.e. washing, drying, sorting & standardized packaging.

3.2 Background

Wine making has been the most important use for grapes through out the ages, however, a small amount of these grapes have always been made into raisins. The technique of drying fruit was likely discovered by accident. It is conceivable that ancient came upon fallen fruit that had dried in the sun and discovered its sweetness after tasting it. Raisins specifically have been mentioned in ancient writings and it suggests that they were used for eating, treating illnesses, and even paying taxes. Evidence has shown that raisins were primarily produced by the Persian & Egyptians as early as 2000 B.C. The lands of Spain, Asia, and Greece have also been used for grapes cultivation from centuries. However raisins were formally introduced to the world by Spanish missionaries in the late 1400s from Mexico. Mexican usually cultivate grapes for wine production. However, after discovering raisins economical profitability with smaller production/processing cycle as compared to wine, the commercial production of raisin was initiated.

The largest commercial producer of raisins is California in a region known as San Joaquin valley where grapes have been cultivated since the 19th century. In addition to California (USA), Australia, Turkey, Greece, Iran and Chile are among the leading commercial producers of raisins.

3.3 Defining the Product

The word 'Raisins' is originated from Latin word “racemes” meaning a bunch of grapes, and the scientific name is *Vitis vinifera*. Simply saying, a raisin is sun dried (Dried up to 80-85%) grape of certain varieties with a high content of sugar and solid flesh. Raisins are processed and eaten all over the world. Today Raisins have become a common part of daily diets, in many places raisins are bleached or dipped in oil to improve their appearance & taste. All raisins can easily be stored at room temperature for several months. For prolonged storage (up to a year), they are refrigerated in a tightly sealed plastic bags. Raisins can be eaten out of hand, as well as used in variety of baked and cooked food. Raisins are highly nutritious food because of their sugar, mineral (especially iron), and vitamin (B and A) contents.

The most common grapes used for raisins are Thompson seedless, Zante and Muscat. Thompson seedless grapes are processed to produce sultana. While tiny Zante grapes are dried for currants production, and Muscat grapes (which usually have their seeds removed before processing) create a dark, perfumy and intensely sweet raisin. Grapes are either sun-dried or dehydrated mechanically. Both dark and golden raisins can be made from grapes. The basic difference is only of processing. Dark raisins are sun-dried for several weeks, thereby

producing a shriveled appearance and dark color. Golden raisins are treated with artificial heat & chemicals for producing a moisture product. In addition elements like Victoria oil, Potassium bi carbonate & Sulphur dioxide are also used globally for flavoring purpose.

3.4 Raw Material

The primary raw material for making raisins are grapes. 4 kg of fresh grapes are required to make 1 kg of raisins. These grapes must have certain qualities in order to produce quality raisins. i.e. they must ripen early. Additionally, they must be clean, have a soft texture, not stick together when stored, and have a pleasing flavor. The most popular grapes varieties of Pakistan for producing raisin are Haita, Kishmishi, Shundokhani and Sahibi. However, considering the International & domestic market Haita & Shundokhani are suggested to be most suitable grapes for processing under the proposed facility. Additionally the semi processed raisin coming from neighboring countries will also be processed.

3.5 Opportunity Rationale

Sweet, tasty and delicious raisins are a great snack just as they are or can add flavor to almost any favorite recipe, can be eaten by hand & mixed with other dishes and fruits. It is used in various traditional dishes i.e. Kabli Palao, Halwa etc and also consumed in modern shapes as pulp, juices, paste, cereals, and snacks etc. Raisins as a part of the daily diet provide essential nutrients, soluble & insoluble fiber and health protective bioactive compounds. Raisins have proven its effectiveness for the health aspects. Studies¹ reveals that Raisins reduce the risk of developing various diseases i.e. constipation, heart disease, diabetes, colon cancer and obesity.

Raisins add a touch of sunshine to breads, muffins, cookies, cakes, pies, tarts and puddings etc. As bakery products are one of the major highlights of food industry, it makes the commercial importance of raisin even higher. Raisins are also used in a variety of dishes. They add a piquant flavor to beef, mutton, chicken, rice & lamb. In many places raisins are used in place of sugar. Raisins' nutrients, natural resistance to spoilage, ease of storage & transport has strengthened their appeal & widespread consumption and it is the reason that raisins have been popularly considered a healthy food for millennia.

3.6 Proposed Product Mix

The Proposed product mix for the project will be standardized raisin, processed in accordance with internationally accepted quality standards. Value addition will be done in shape of quality processing & standardize packaging.

3.7 Market Entry Timing

The project is highly dependent upon the availability of Grapes. So keeping in view the seasonal production of grapes, it is suggested that the project may be initiated between July and September. However, value addition can be done through this facility by utilizing round the year production of other varieties of grapes. In addition the semi processed raisins coming from neighboring countries/market can be processed / value added under this facility.

¹ Health benefits of Sun Dried Raisin by Health Research & Studies Center 2008-2010

3.8 Proposed Locations

The proposed location for the establishment of the unit will primarily be near grapes producing areas. In Balochistan, it is suggested that the said unit may be established in Quetta, Pishin, Killa Abdullah, Mastung & Kalat districts.

3.9 Proposed Business Status

The proposed legal structure of the business entity is either sole proprietorship or partnership. Although selection totally depends upon the choice of the entrepreneur but the proposed prefeasibility is based on Sole Proprietorship.

3.10 Viable Economics Size

The total investment required for this project is Rs. 19.98 millions. This investment mainly covers capital costs of Rs.13.85 millions and working capital requirement of Rs 6.13 millions.

Table 1: Project Investment

Description	Amount (Rs)
Total Fixed Cost	13,859,000
Working Capital	6,130,350
Total	19,989,350

4. CRITICAL FACTORS IN DECISION MAKING

Following are the key factors recommended for initiating a successful business.

4.1 Key Success Factors

- Selection of proper location, equipment and staff would be required to run project successfully.
- Continuous efforts should be made for up-gradation of the processing techniques.
- To attract large number of customers the product must be processed on international quality standards.

4.2 Opportunities

The proposed project will be having following opportunities:

- Demand of the product for diversified use in medicine and food industry.
- Escalating demand based on rapidly growing population.
- Availability of raw material.
- Lack of commercial producers.
- Established market & growing demand.

4.3 Threats

The proposed project will be facing the following threats:

- Price fluctuations and macroeconomic instability.
- Competition from neighboring countries.
- Illegal trade /import from neighboring countries.

5. MARKET ANALYSIS

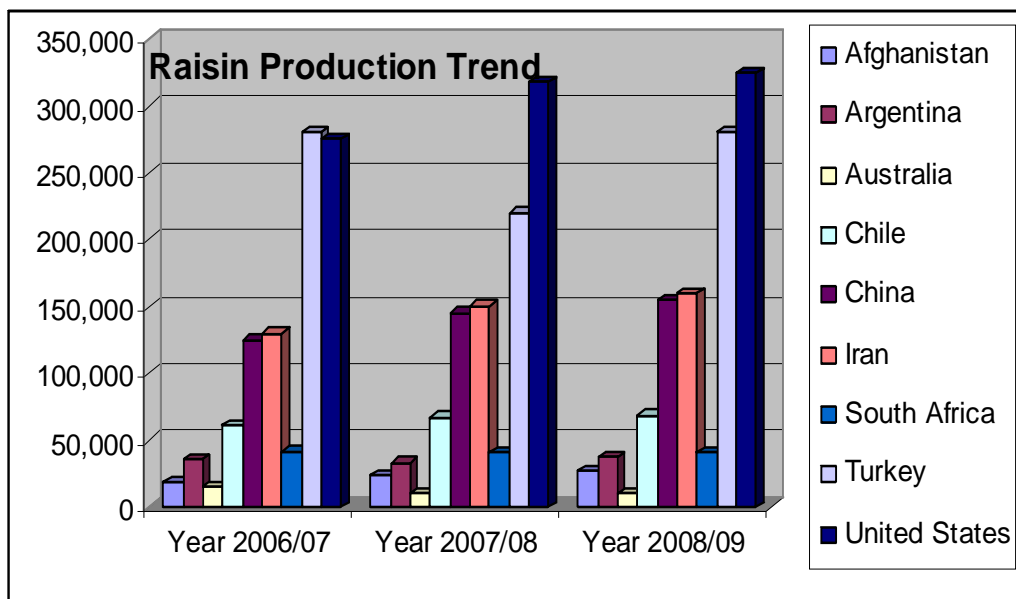
5.1 Target Customer

The target customers for processed raisins would primarily be individuals, dry fruit whole sellers & retailers, confectionary and medicine industry. Initially the project will be focusing on local customers, while further expansion can be done depending upon its successful operation.

5.2 Global Market

In accordance with data provided by United States Department of Agriculture (USDA)², Raisin production for world was calculated at almost 1.2 million metric tons in year 2008-09. Statistics reveals that Turkey is gradually increasing its performance as the country recovers from the previous years drought. This will provide an opportunity for China, Iran, United States and other producers to increase their export. Following is the production trend of Raisin among major producers.

Figure1: Raisin Production Trend for major Producers



Source: USDA

5.2.1 Major Producers

According to statistics provided by USDA, the major producers of raisin include United States, Turkey, Iran, China, Chile and Argentina etc. United States leads the table by producing major portion of raisin in the world while Turkey ranks 2nd. Table 2 illustrates the production data of the major producers around the globe.

² United States department of Agriculture: Report on Raisin – Report on Raisin World Markets and Trend 2008-09

**Table 2: Raisins Production in Selected Countries
Metric Tons (Dry Weight Basis)**

Country	Year 2006/07	Year 2007/08	Year 2008/09
United States	274,877	317,515	325,000
Turkey	280,000	220,000	280,000
Iran	130,000	150,000	160,000
China	125,000	145,000	155,000
Chile	61,500	67,350	69,000
South Africa	41,832	40,201	40,300
Argentina	36,000	33,000	37,000
Afghanistan	19,000	23,500	27,000
Australia	15,000	10,000	10,000
Total Production (Including all major and minor producers)	1,041,709	1,064,066	1,157,800

Source: USDA

5.2.2 Major Exporters

World exports of raisins for the year 2008-09 was around 730,700 tons, an 8-percent increase over the previous year. Major producers like Turkey, United States, Iran, and China are showing a gradual increase in exports on yearly basis, as illustrated by table 3.

**Table 3: Major Exporters of Raisins
Metric Tons (Dry Weight Basis)**

Country	Year 2006/07	Year 2007/08	Year 2008/09
Turkey	260,000	200,000	210,000
United States	112,220	145,000	155,000
Iran	103,000	118,000	129,000
Chile	61,284	62,000	65,700
China	23,621	30,000	40,000
South Africa	31,259	31,300	31,400
Argentina	28,900	26,400	30,000
Afghanistan	15,000	19,000	21,500
Australia	5,700	4,000	3,900
Total exports (Including all major and minor exporters)	675,251	677,725	730,700

Source: USDA

5.2.3 Major Importers

In relevance to data provided by USDA, raisin imports of world are around 687,900 tons in year 2008-09, showing about 8-percent increase over the previous year. The European Union is the biggest raisin consumer and account for around 53 percent of global imports for year 2008-09. Other major import markets for the same year include Russia and Canada with estimated annual imports of around 79,000 tons and 38,800 tons, respectively. Over the last several years

there is a gradual increase in world imports of raisin, opening a gate way of potential in respective industries.

Table 4: Major Importers of Raisins
Metric Tons (Dry Weight Basis)

Country	Year 2006/07	Year 2007/08	Year 2008/09
EU	331,600	340,000	362,000
Russia	70,325	74,500	79,000
Canada	32,800	36,000	38,800
Japan	31,850	32,500	32,700
Australia	27,475	27,200	30,000
United States	28,868	25,000	30,000
Ukraine	19,725	21,600	22,300
China	12,262	13,500	15,000
India	6,900	10,300	11,150
Total imports (Including all major and minor importers)	618,464	639,285	687,885

Source: USDA

5.3 Domestic Market

In Pakistan, Balochistan province contributes more than 95% of grapes production. Grape is the second major fruit of Balochistan. Statistics for the year 2008-09³ reveals that 15,118 Hectares area is utilized for grapes cultivation in Balochistan while the overall production of grapes stood at 75,758 tones. Grape production during the last decade increased from 73,768 tones in year 1998 – 99 to 74,758 tones in year 2008 – 09 showing an increase of 1.3% mainly due to rural electrification, which resulted in extensive installation of tube wells. A number of varieties of grapes are grown in highlands of the province. The leading grape varieties grown are Haita, Kishmishi, Shundokhani, and Sahibi. The fruit is consumed both fresh and in a dried form. The main grape producing areas are Quetta, Pishin, Killa Abdullah, Mastung and Kalat districts, these districts are well known for their quality, taste & production. These districts contributed more than 70 percent to area and production of grapes in the province. Table 4 describes the area utilization and productivity of grapes in the said districts for year 2008-09.

Table 5: Area and Production of Grapes in Major Districts of Balochistan

Districts	Area (Hectares)	Production (Tones)
Pishin	8,305	49,786
Quetta	1,570	9,741
Mastung	1,435	6,745
Kalat	203	1,580
Killa Abdullah	312	1,453
Total (including all major & minor producers)	15,118	74,758

Source: Agriculture Statistics Balochistan – 2008-09

³ Agriculture Statistics Balochistan 2008 – 09

In Balochistan, 90 % of the farmers sell their orchards to pre-harvest contractors at low price. The remaining 10 % farmers market their product through direct sale. It is necessary to notify that commercial and certified production of the raisin is near to zero. There is a strong need to create awareness among these farmers regarding such issues. Although some producers are working out their own ways for commercial production of dehydrated grapes at micro level but they are utilizing very outdated techniques.

6. PRODUCTION PROCESS

Following are four different methods used for raisin production:

1. Natural / Sun dried method
2. Oven Dehydration
3. Continuous Tray
4. Dried on Vine Method

Keeping in view cultural & economical prospective, the natural/sun dried method is suggested for the proposed prefeasibility whereas value addition will be carried out through utilizing modern technology. The step by step production process is described below;

6.1 Dehydration

Dehydration of the proposed prefeasibility is suggested to initiate with harvesting season of grapes i.e. June till September, as grapes are at their optimum sweetness at this time. Both Haita & Shundokhani grapes are simply dehydrated using a sun dried method either through paper trays or Kishmish Khana. Only Haita (also called Abjosh), are first treated with hygiene mixture of water (20 liters) & Caustic soda (1kg) to splinter their outer surface for smooth dehydration. Haita grapes are dipped in this solution for 1 to 2 minutes and then forwarded for dehydrating purpose.

In paper tray method bunches of handpicked grapes are placed on paper trays for dehydrating purpose, which are laid out on the ground between the rows. While Kishmish Khana may also be utilized for the same purpose. In this method bunches of hand picked grapes are hanged in Kishmish Khana for dehydration. Depending on the weather, the grapes may allow to dry for two to four weeks. During this time, the moisture content of the grape will reduce from 75% to fewer than 15% and the color of the fruit changes to a brownish purple. At nights Paper trays must be rolled to minimize the accumulation of sand and protect against raisin moth infestation. Whereas the Kishmish Khana may be sealed for the same purpose. Certified insecticides could be used for the protection of raisin from insects. After the fruit is dried, the product is forwarded to processing plant for further processing.

6.2 Inspection

Grapes are thoroughly inspected to ensure defined standards & specifications. Raisins are graded at different standards with respect to their color & size. Immature / semi dehydrated grapes are sorted out separately for further dehydration.

6.3 Processing

The dried grapes are moved from the storage to the processing plant, where processing is done by complying with international quality standards. In the first step, the raisins are separated from the bunch stem by manual shaking. Secondly, the raisins are run through a series of stages i.e. washing, drying & cleaning. Third step include final grading & sorting of raisin on the basis of size & color using a standardized Sorting & Grading Machine.

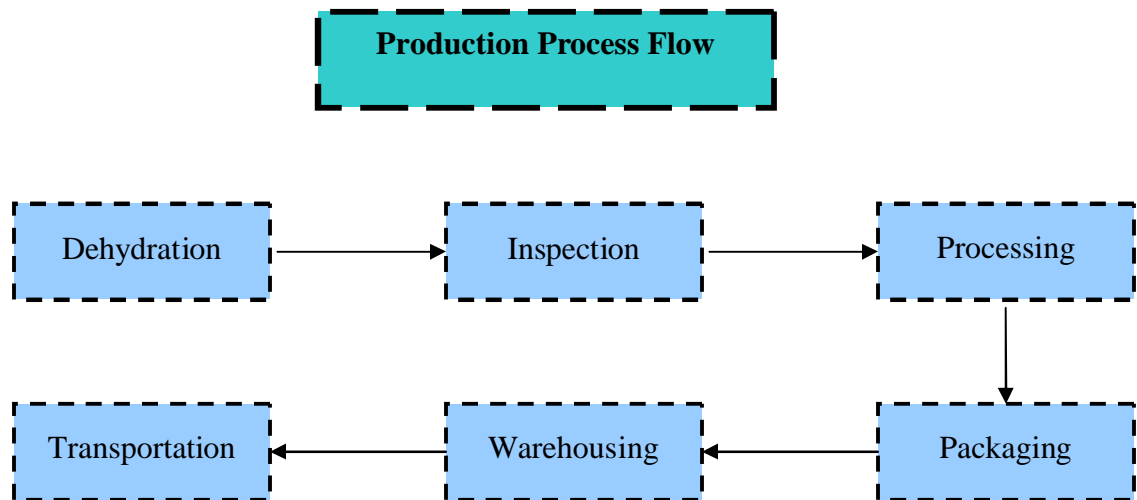
6.4 Packaging

Standardized Packaging of final product is done in different ranges. The proposed packaging of the final product will range in size from 500 grams, 1kg and 2kg for individual consumption. However for the commercial purpose, 50kg, 100kg, 250kg & other packaging ranges can also be used.

6.5 Warehousing & Transportation

In the end the raisins are forwarded for transportation & warehousing purposes.

Figure 2: Production Process Flow



7. PROJECT INPUTS

7.1 Equipment Requirement

Table 7.1: Equipment & Machinery Details

Description	No	Price/Unit (Dollar-\$)	Total Price (PKR) Assuming \$1=85PKR
Fruit Washer & Dryer	1	26,000	2,210,000
Sorting & Grading Machine	1	16,000	1,360,000
Packaging Machine	1	14,000	1,190,000
Generator with installation	1		500,000
Transformer with installation	1		500,000
Total			5,760,000

7.2 Office Equipment Requirement

Table 7.2: Office Equipment Details

Other Equipment Details	Qty	Cost/Unit	Total Cost (PKR)
Computer	1	25,000	25,000
Printers	1	10,000	10,000
Fax	1	12,000	12,000
Telephone Sets	2	1000x2=2,000	2,000
Total			49,000

7.3 Human Resource Requirement

Table 7.3: Human Resource Requirement Details

Description – HR Requirements	Nos	Salary per month	Salary per year
Manager	1	30,000	360,000
Technician	1	20,000	240,000
Plant Operators	4	15,000	720,000
Peon / Helpers	3	8,000	288,000
Guard	1	7,000	84,000
Sweeper	1	6,000	72,000
Total			1,764,000

Note: The staff salaries are estimated according to the market trends; however, the investor may set different pay scales.

7.4 Vehicle Requirement

Table 7.4: Vehicle Requirement Details

Vehicle	Nos	Cost
Vehicle - Shehzor	1	900,000
Registration	3%	27,000
Total Cost		927,000

7.5 Land & Building Requirement

Table 7.5: Land & Building Requirement Details

Description – Land & Building	Cost/Sq. Ft	Area in Sq. ft	Total Cost
Land	200	6,000	1,200,000
Office Building	1,200	300	360,000
Warehouse	1,000	1,000	1,000,000
Kishmish Khana	1,000	1,000	1,000,000
Factory	1,700	2,000	3,400,000
Total			6,960,000

7.6 Furniture & Fixture Requirement

Table 7.6: Furniture & Fixture Details

Description	Total Cost
Furniture & Carpeting Requirement	80,000

8. PROJECT ECONOMICS

8.1 Total Capital Requirement

Table 8.1: Total Capital Requirements

Capital Investment	Rs. in actual
Land	1,200,000
Building/Infrastructure	5,688,000
Machinery & equipment	5,760,000
Furniture & fixtures	80,000
Office vehicles	927,000
Office equipment	49,000
Pre-operating costs	155,000
Total Capital Costs	13,859,000

Working Capital	Rs. in actual
Equipment spare part inventory	96,000
Raw material inventory	5,200,000
Upfront insurance payment	334,350
Cash	500,000
Total Working Capital	6,130,350

Total Investment	19,989,350
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8.2 Capital Structure of the project

Table 8.2 Project Financing

Initial Financing	Rs. in actual
Debt	9,994,675
Equity	9,994,675

9. FINANCIAL ANALYSIS

Financial Evaluation of Raisin Production Unit

SMEDA

Key Variables		
Type of Machinery		...
Cost of One Machine		...
Number of Machines		...
Total Investment in Project		19,989,350
Equity	50%	9,994,675
Debt	50%	9,994,675
Lease	0%	-
Export-refinance	0%	-
Interest Rate		16%
Debt Tenure		5
Debt Payments per year		1
Total Number of Employees		...

Rs. in actuals

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Free Cash Flow to Equity (FCFE)	(6,373,531)	(4,897,209)	1,414,612	10,794,180	15,383,003	25,857,323	34,175,124	43,596,785	54,238,667	92,395,649
Free Cash Flow to Firm (FCFF)	(7,359,590)	(2,193,030)	8,116,356	12,687,657	17,379,654	25,857,323	34,175,124	43,596,785	54,238,667	98,922,741
Profit margin on sales	-3%	1%	4%	6%	8%	10%	12%	14%	16%	18%
ROE	-64%	26%	46%	67%	81%	88%	93%	97%	100%	102%
Times interest earned	(1.81)	3.25	15.14	40.79	115.18	-	-	-	-	-

	Equity	Project
Internal Rate of Return (IRR)	57%	39%
Modified Internal Rate of Return (MIRR)*	42%	29%
Payback Period (yrs)	3.79	4.50
Net Present Value (NPV)	@ 25% 39,352,856	@ 17% 58,361,373

*Re-investment rate has been taken to be the interest on cash in bank, which in this case is 9%

Statement Summaries										SMEDA
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Rs. in actuals Year 10
Revenue	136,800,000	159,885,000	186,219,000	216,220,950	237,843,045	261,627,350	287,790,084	316,569,093	348,226,002	383,048,602
Cost of goods sold	132,422,400	148,852,856	165,852,472	184,251,623	194,091,881	204,486,592	215,469,691	227,077,428	239,348,546	252,324,470
Gross Profit	4,377,600	11,032,144	20,366,528	31,969,327	43,751,164	57,140,758	72,320,394	89,491,665	108,877,456	130,724,133
<i>General administration & selling expenses</i>										
Administration expense	642,600	926,393	1,016,587	1,115,564	1,224,177	1,343,364	1,474,156	1,617,682	1,775,182	1,948,016
Rental expense	-	-	-	-	-	-	-	-	-	-
Utilities expense	-	-	-	-	-	-	-	-	-	-
Travelling & Comm. expense (phone, fax, etc.)	36,720	52,937	58,091	63,747	69,953	76,764	84,237	92,439	101,439	111,315
Office vehicles running expense	278,100	305,910	336,501	370,151	407,166	447,883	492,671	541,938	596,132	655,745
Office expenses (stationary, etc.)	6,120	8,823	9,682	10,624	11,659	12,794	14,040	15,406	16,906	18,553
Promotional expense	136,800	159,885	186,219	216,221	237,843	261,627	287,790	316,569	348,226	383,049
Insurance expense	334,350	296,280	258,210	220,140	182,070	218,647	174,918	131,188	87,459	43,729
Professional fees (legal, audit, etc.)	273,600	319,770	372,438	432,442	475,686	523,255	575,580	633,138	696,452	766,097
Depreciation expense	1,058,700	1,058,700	1,058,700	1,058,700	1,058,700	1,171,889	1,171,889	1,171,889	1,171,889	1,171,889
Amortization expense	31,000	31,000	31,000	31,000	31,000	-	-	-	-	-
Property tax expense	-	-	-	-	-	-	-	-	-	-
Miscellaneous expense	4,104,000	4,796,550	5,586,570	6,486,629	7,135,291	7,848,820	8,633,703	9,497,073	10,446,780	11,491,458
Subtotal	6,901,990	7,956,247	8,913,998	10,005,217	10,833,545	11,905,043	12,908,983	14,017,323	15,240,465	16,589,851
Operating Income	(2,524,390)	3,075,897	11,452,530	21,964,109	32,917,619	45,235,715	59,411,410	75,474,342	93,636,991	114,134,282
Other income	22,500	-	63,658	206,461	332,109	610,712	1,111,513	1,683,211	2,323,644	4,196,389
Gain / (loss) on sale of assets	-	-	-	-	370,800	-	-	-	-	-
Earnings Before Interest & Taxes	(2,501,890)	3,075,897	11,516,188	22,170,570	33,620,528	45,846,427	60,522,923	77,157,553	95,960,635	118,330,671
Interest expense	1,380,816	947,502	760,488	543,553	291,908	-	-	-	-	-
Earnings Before Tax	(3,882,706)	2,128,396	10,755,699	21,627,017	33,328,620	45,846,427	60,522,923	77,157,553	95,960,635	118,330,671
Tax	-	-	3,690,569	8,867,077	13,664,734	18,797,035	24,814,399	31,634,597	39,343,860	48,515,575
NET PROFIT/(LOSS) AFTER TAX	(3,882,706)	2,128,396	7,065,130	12,759,940	19,663,886	27,049,392	35,708,525	45,522,956	56,616,775	69,815,096
Balance brought forward		(3,882,706)	(1,754,311)	5,310,819	9,035,380	14,349,633	20,699,512	28,204,018	36,863,487	46,740,131
Total profit available for appropriation	(3,882,706)	(1,754,311)	5,310,819	18,070,759	28,699,265	41,399,024	56,408,037	73,726,975	93,480,262	116,555,227
Dividend	-	-	-	9,035,380	14,349,633	20,699,512	28,204,018	36,863,487	46,740,131	58,277,614
Balance carried forward	(3,882,706)	(1,754,311)	5,310,819	9,035,380	14,349,633	20,699,512	28,204,018	36,863,487	46,740,131	58,277,614

Statement Summaries

SMEDA

Balance Sheet

Rs. in actuals

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
<i>Current assets</i>											
Cash & Bank	500,000	-	-	1,414,612	3,173,412	4,206,782	9,364,593	15,335,698	22,068,996	29,567,531	63,685,567
Accounts receivable	-	3,747,945	4,064,178	4,741,151	5,512,876	6,220,055	6,842,060	7,526,266	8,278,893	9,106,782	10,017,460
Finished goods inventory	-	-	-	-	-	-	-	-	-	-	-
Equipment spare part inventory	96,000	117,810	144,075	175,651	202,877	234,323	270,643	312,593	361,044	417,006	-
Raw material inventory	5,200,000	6,381,375	7,804,046	9,514,433	10,989,170	12,692,492	14,659,828	16,932,101	19,556,577	22,587,846	-
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	334,350	296,280	258,210	220,140	182,070	218,647	174,918	131,188	87,459	43,729	-
Total Current Assets	6,130,350	10,543,410	12,270,509	16,065,987	20,060,406	23,572,299	31,312,042	40,237,846	50,352,969	61,722,895	73,703,027
<i>Fixed assets</i>											
Land	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000
Building/Infrastructure	5,688,000	5,403,600	5,119,200	4,834,800	4,550,400	4,266,000	3,981,600	3,697,200	3,412,800	3,128,400	2,844,000
Machinery & equipment	5,760,000	5,184,000	4,608,000	4,032,000	3,456,000	2,880,000	2,304,000	1,728,000	1,152,000	576,000	-
Furniture & fixtures	80,000	72,000	64,000	56,000	48,000	40,000	32,000	24,000	16,000	8,000	-
Office vehicles	927,000	741,600	556,200	370,800	185,400	1,492,943	1,194,354	895,766	597,177	298,589	-
Office equipment	49,000	44,100	39,200	34,300	29,400	24,500	19,600	14,700	9,800	4,900	-
Total Fixed Assets	13,704,000	12,645,300	11,586,600	10,527,900	9,469,200	9,903,443	8,731,554	7,559,666	6,387,777	5,215,888	4,044,000
<i>Intangible assets</i>											
Pre-operation costs	155,000	124,000	93,000	62,000	31,000	-	-	-	-	-	-
Legal, licensing, & training costs	-	-	-	-	-	-	-	-	-	-	-
Total Intangible Assets	155,000	124,000	93,000	62,000	31,000	-	-	-	-	-	-
TOTAL ASSETS	19,989,350	23,312,710	23,950,109	26,655,887	29,560,605	33,475,741	40,043,596	47,797,512	56,740,746	66,938,784	77,747,027
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable	-	5,405,325	6,059,482	6,772,386	7,525,325	7,950,634	8,404,769	8,890,338	9,410,263	9,967,818	9,474,739
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	5,873,531	4,897,209	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	11,278,856	10,956,692	6,772,386	7,525,325	7,950,634	8,404,769	8,890,338	9,410,263	9,967,818	9,474,739
<i>Other liabilities</i>											
Lease payable	-	-	-	-	-	-	-	-	-	-	-
Deferred tax	-	-	-	1,180,800	1,180,800	1,180,800	944,640	708,480	472,320	236,160	0
Long term debt	9,994,675	5,921,886	4,753,053	3,397,207	1,824,426	-	-	-	-	-	-
Total Long Term Liabilities	9,994,675	5,921,886	4,753,053	4,578,007	3,005,226	1,180,800	944,640	708,480	472,320	236,160	0
<i>Shareholders' equity</i>											
Paid-up capital	9,994,675	9,994,675	9,994,675	9,994,675	9,994,675	9,994,675	9,994,675	9,994,675	9,994,675	9,994,675	9,994,675
Retained earnings	-	(3,882,706)	(1,754,311)	5,310,819	9,035,380	14,349,633	20,699,512	28,204,018	36,863,487	46,740,131	58,277,614
Total Equity	9,994,675	6,111,968	8,240,364	15,305,494	19,030,055	24,344,308	30,694,187	38,198,693	46,858,162	56,734,806	68,272,288
TOTAL CAPITAL AND LIABILITY	19,989,350	23,312,710	23,950,109	26,655,887	29,560,605	33,475,741	40,043,596	47,797,512	56,740,746	66,938,784	77,747,027

Note: Total assets value will differ from project cost due to first installment of leases paid at the start of year 0

Statement Summaries											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Rs. in actuals Year 10
<i>Operating activities</i>											
Net profit	-	(3,882,706)	2,128,396	7,065,130	12,759,940	19,663,886	27,049,392	35,708,525	45,522,956	56,616,775	69,815,096
Add: depreciation expense	-	1,058,700	1,058,700	1,058,700	1,058,700	1,058,700	1,171,889	1,171,889	1,171,889	1,171,889	1,171,889
amortization expense	-	31,000	31,000	31,000	31,000	31,000	-	-	-	-	-
Deferred income tax	-	-	-	1,180,800	-	0	(236,160)	(236,160)	(236,160)	(236,160)	(236,160)
Accounts receivable	-	(3,747,945)	(316,233)	(676,973)	(771,725)	(707,179)	(622,005)	(684,206)	(752,627)	(827,889)	(910,678)
Finished good inventory	-	-	-	-	-	-	-	-	-	-	-
Equipment inventory	(96,000)	(21,810)	(26,265)	(31,576)	(27,226)	(31,446)	(36,320)	(41,950)	(48,452)	(55,962)	417,006
Raw material inventory	(5,200,000)	(1,181,375)	(1,422,671)	(1,710,387)	(1,474,737)	(1,703,321)	(1,967,336)	(2,272,273)	(2,624,476)	(3,031,269)	22,587,846
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	(334,350)	38,070	38,070	38,070	38,070	(36,577)	43,729	43,729	43,729	43,729	43,729
Accounts payable	-	5,405,325	654,157	712,903	752,939	425,309	454,135	485,570	519,925	557,555	(493,079)
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(5,630,350)	(2,300,741)	2,145,154	7,667,667	12,366,961	18,700,371	25,857,323	34,175,124	43,596,785	54,238,667	92,395,649
<i>Financing activities</i>											
Change in long term debt	9,994,675	(4,072,789)	(1,168,833)	(1,355,846)	(1,572,781)	(1,824,426)	-	-	-	-	-
Change in short term debt	-	5,873,531	(976,321)	(4,897,209)	-	-	-	-	-	-	-
Change in export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-
Land lease payment	-	-	-	-	-	-	-	-	-	-	-
Change in lease financing	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	9,994,675	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing	19,989,350	1,800,741	(2,145,154)	(6,253,055)	(1,572,781)	(1,824,426)	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(13,859,000)	-	-	-	-	(1,492,943)	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by investing	(13,859,000)	-	-	-	-	(1,492,943)	-	-	-	-	-
NET CASH	500,000	(500,000)	-	1,414,612	10,794,180	15,383,003	25,857,323	34,175,124	43,596,785	54,238,667	92,395,649
Cash balance brought forward		500,000	-	-	1,414,612	3,173,412	4,206,782	9,364,593	15,335,698	22,068,996	29,567,531
Cash available for appropriation	500,000	(0)	-	1,414,612	12,208,792	18,556,415	30,064,105	43,539,717	58,932,483	76,307,663	121,963,181
Dividend	-	-	-	-	9,035,380	14,349,633	20,699,512	28,204,018	36,863,487	46,740,131	58,277,614
Cash carried forward	500,000	-	-	1,414,612	3,173,412	4,206,782	9,364,593	15,335,698	22,068,996	29,567,531	63,685,567

10. KEY ASSUMPTIONS

Table 10-1 Cost of Goods Sold per Unit of Production

COGS 1 (Raw material per unit)	Rs. 260
COGS growth rate per annum	5%

Table 10-2 Production Related Assumptions

Production capacity per year (kg)	600,000
Sale price per unit in year 1	Rs. 285
Sale price growth rate per annum	10%
Production capacity utilization in first year	80%
Production capacity utilization growth rate	5%
Maximum production capacity utilization	95%

Table 10-3 Economic Related Assumptions

Inflation rate	10%
Wage growth rate	10%
Electricity Growth Rate	10%
Water Price Growth Rate	10%
GAS Price Growth Rate	10%

Table 10-4 Financing Assumptions

Interest rate on long term debt	16%
Project Debt Component	50%
Project Equity Component	50%
Tax rate	22%
Required rate of return on equity	25%
WACC	17%
Owners Withdrawals	50% of available cash

Table 10-5 Expense Assumptions

Administrative benefit expense	5% of administrative expense
Traveling expense	3% of administrative expense
Communication expense	3% of administrative expense
Office vehicle running expense	30% of vehicle cost
Office expense	1% of administrative expense
Promotional Expense	0.15% of revenue
Machinery & equipment insurance rate	5%

Office vehicle insurance rate	5%
Professional Fee (Legal, Audit etc)	0.5% of revenue
Bad debt expense	3% of revenue

Table 10-6 Depreciation Rates

Building & Infrastructure	5%
Furniture & fixtures	10%
Machinery	10%
Office equipment	10%
Office Vehicle	20%

Table 10-7 Cash Flow Assumptions

Accounts Receivables Cycle (In Days)	30
Accounts Payable Cycle (In Days)	30
Initial cash on hand	Rs. 500,000

Table 10-8 Raw Material Assumptions

Semi processed raisin usage	50% of the total input
Haita	30% of the total input
Shundokhani	20% of the total input