



Pre-feasibility Study

GRAPE FARM

September 2018

“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, and revenues 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

Table of Contents

1	DISCLAIMER.....	2
2	EXECUTIVE SUMMARY	3
3	INTRODUCTION TO SMEDA.....	3
4	PURPOSE OF THE DOCUMENT.....	4
5	BRIEF DESCRIPTION OF PROJECT & PRODUCT.....	4
5.1	GRAPES CULTIVATION AND PRODUCTION PROCESS FLOW	5
5.2	INSTALLED AND OPERATIONAL CAPACITY	5
6	CRITICAL FACTORS	6
7	GEOGRAPHICAL POTENTIAL FOR INVESTMENT	6
8	POTENTIAL TARGET CUSTOMERS / MARKETS.....	7
9	PROJECT COST SUMMARY.....	7
9.1	PROJECT ECONOMICS	7
9.2	PROJECT FINANCING.....	7
9.3	PROJECT COST	8
9.4	SPACE REQUIREMENT	8
9.5	FURNITURE AND FIXTURE REQUIREMENT	9
9.6	FARM SETUP AND EQUIPMENT COST DETAIL.....	9
9.7	HUMAN RESOURCE REQUIREMENT	9
9.8	UTILITIES AND OTHER COSTS.....	10
9.9	REVENUE GENERATION	10
9.10	RAW MATERIAL CALCULATIONS.....	10
10	CONTACT DETAILS.....	12
10.1	FARM STRUCTURE SUPPLIERS.....	12
10.2	GRAPES PLANTS SUPPLIERS.....	12
10.3	TECHNICAL EXPERTS / CONSULTANTS.....	13
11	USEFUL WEB LINKS.....	14
12	ANNEXURES	16
12.1	INCOME STATEMENT	16
12.2	BALANCE SHEET.....	17
12.3	CASH FLOW STATEMENT.....	18
13	KEY ASSUMPTIONS.....	19
13.1	OPERATING COST ASSUMPTIONS	19
13.2	PRODUCTION COST ASSUMPTIONS	19
13.3	REVENUE ASSUMPTIONS	20
13.4	FINANCIAL ASSUMPTIONS	20

1 DISCLAIMER

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2 EXECUTIVE SUMMARY

'Grape Farming' is gaining tremendous popularity among the local farming community and is being practiced in many areas of Pakistan, especially in Baluchistan, KPK and South Punjab.

This particular pre-feasibility is for cultivation of different varieties of seedless grapes spreading over an area of 5 acres. The main varieties to be cultivated are 'Thompson', 'Red Globe', 'Cardinal', 'Sultana', 'Narc Black', etc. The total time from land preparation and sowing of grapes plant to produce fruits, is around 1 year. Whereas, productive life of a plant to produce fruits is more than 10 years. According to this pre-feasibility study, 600 grape plants per acre will be cultivated. The estimated grape fruit production per acre would be 7,200 Kgs including 10% wastage in year 1.

Grapes are grown under different varieties of soil and climatic conditions. Therefore, complete adherence to best agronomic practices as well as technical knowledge and experience of entrepreneur is extremely critical to the success of this project.

The cost for setting up the proposed grape farm is estimated at Rs. 4.27 million out of which Rs. 3.58 million is the capital cost and Rs. 0.69 million is for working capital. The project NPV is projected at Rs. 7.02 million, with an IRR of 48% and a Payback Period of 2.50 years.

3 INTRODUCTION TO SMEDA

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

With a mission "to assist in employment generation and value addition to the national income, through development of the SME sector, by helping increase the number, scale and competitiveness of SMEs", SMEDA has carried out '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.

4 PURPOSE OF THE DOCUMENT

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

The purpose of this document is to facilitate potential investors in **Grape Farm** by providing them with a general understanding of the business with the intention of supporting potential investors in crucial investment decisions.

The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attains greater imminence as the research that precedes such reports reveal certain thumb rules; best practices developed by existing enterprises by trial and error, and certain industrial norms that become a guiding source regarding various aspects of business set-up and its successful management.

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

5 BRIEF DESCRIPTION OF PROJECT & PRODUCT

Grapes are grown for eating as well as for producing juices, carbonated drinks, and raisins. There is a huge demand of the fruit all year round. Prices are at the highest at the start and end of the seasons. Grapes cultivation can be a highly profitable business venture for the farmers if modern farming techniques are applied.

The proposed project is designed as a medium sized grapes cultivation farm on 5 acres of land. There are numerous varieties of grapes, which are suitable for cultivation in three distinctive agro-climatic zones; namely, 'Sub-tropical', 'Hot Tropical' and 'Mild Tropical' climatic regions in Pakistan. However, for the purpose of this pre-feasibility study, following seedless varieties of grape are being proposed with a special consideration of starting the farm in Southern Punjab and Sindh Regions:

- Thompson
- Red Globe
- Cardinal
- Kings Ruby
- Narc Black
- Perlette
- Crimson
- Sultana (Sundar Khani)

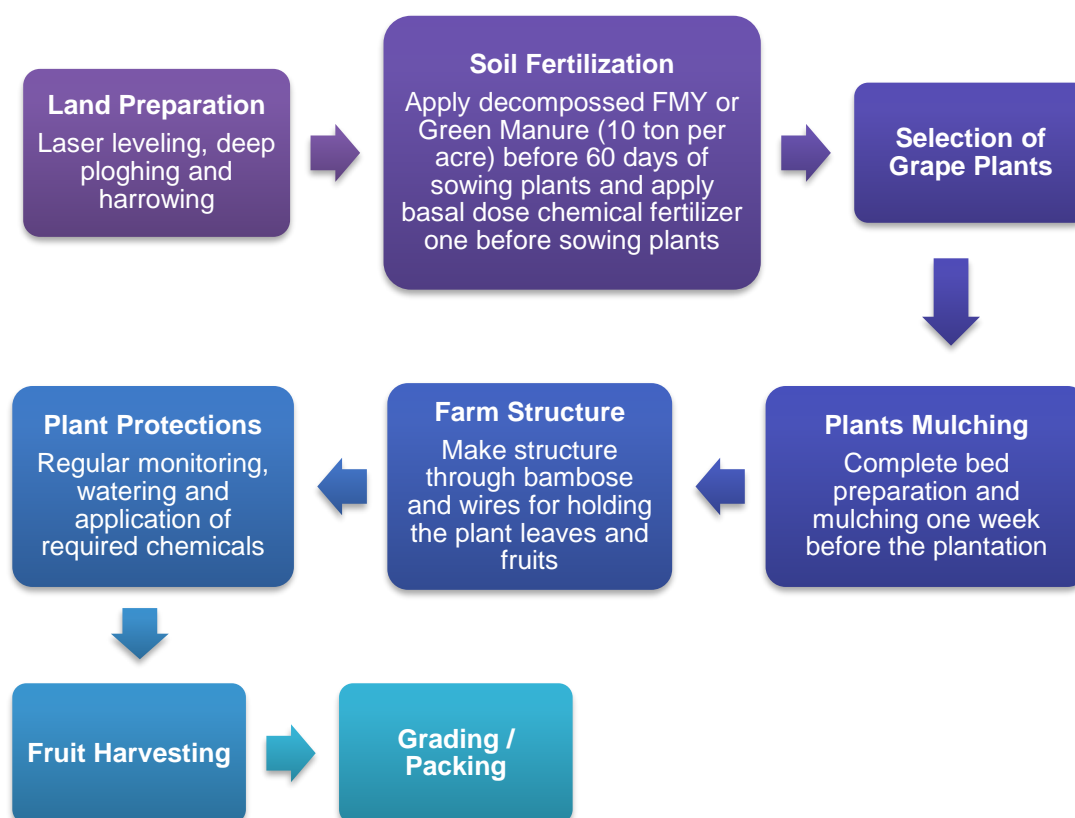
Pictures of different varieties of grapes are enclosed as annexure. The total time frame; from preparation of land and sowing of grapes plant to produce fruits, is

around 13 months, whereas, productive life of a grape plant to produce fruits is more than 10 years. As per the estimates, around 600 grape plants per acre will be cultivated, while estimated grapes production per acre would be approximately 7,200 Kgs including 10% wastage in year 1.

The proposed farm will produce around 37,260 Kgs of grapes annually and provide employment opportunities to two (02) individuals directly, while seasonal pickers and packers would also be required. The farm land is proposed to be on lease basis.

5.1 Grapes Cultivation and Production Process Flow

The process flow for grapes cultivation and production mainly entails the following steps:



The detailed technical parameters about sowing and plantation of grapes cultivation are provided in annexure.

5.2 Installed and Operational Capacity

The proposed 'Grape Farm' would be spread on 5 acre of agriculture land. Approximately 3,000 plants will be sowed with a ratio of 600 plants per acre.

The average grapes produced per plant during year one is assumed as 12 Kgs whereas maximum grapes produced from a plant in the subsequent years is

estimated as 16 Kgs. Therefore, total grapes produced from the proposed farm in year one is 27,945 Kgs and subsequently around 37,260 Kgs in the later years.

6 CRITICAL FACTORS

Following are the factors critical for the success of this business venture;

- ⇒ Complete adherence to best agronomic practices is critical to the success of this project; therefore, technical knowledge and experience of the entrepreneur is absolutely necessary.
- ⇒ Identification of suitable varieties according to soil and climatic conditions of the area.
- ⇒ Proper soil analysis for determining soil nutritional level.
- ⇒ Fertile land and its maintenance within the tunnel during the period of cultivation.
- ⇒ Timely control of pests, diseases and exercise of all recommended agronomic measures.
- ⇒ Timely irrigation, fertilization, training and grading of plantation.
- ⇒ Appropriate post-harvest arrangement for washing, grading, packing, and transportation of product to the market.

7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

As per the current agricultural practices, more than 70% of grapes production in Pakistan is concentrated in Baluchistan with rest of the majority share in KPK and in some parts of Punjab. Following are the prominent geographical locations known for grapes cultivation in Pakistan:

Quetta, Pishin, Kot Abdullah, Loralai, Kalat, Mastung, Kharan, Panjgor, Swat, Charsada, Nowshera, Chakwal, Abbotabd, Chitral, Bahawalpur, etc.

However, recent success of India for cultivation of grapes in Rajasthan Region and declaring it as a 'Rajasthan Grapes Valley' compels to follow the same practices in similar agro-climatic regions i.e. Cholistan and Thar in Pakistan. Therefore, following areas of Southern Punjab and Sindh could also be the most appropriate / ideal locations for the proposed farm:

Bahawalpur, Rahim Yar Khan, Sadiqabad, Multan, Muzzafargar, Dera Ghazi Khan Khairpur, Mirpur Khas, Sargodha, etc.

8 POTENTIAL TARGET CUSTOMERS / MARKETS

The potential local target market for the packed fresh grapes will be the general public of upper-middle income group of urban cities, who generally prefer to buy the fresh fruits and vegetables from super markets and big departmental stores. Considering to that, major cities for instance Karachi, Lahore, Peshawar, Quetta, Rawalpindi, Islamabad, Multan, Sialkot, Faisalabad, Hyderabad and etc. with large urban base would be the potential local target markets for the proposed business. Similarly, fruit market of these cities will be also focused as wholesale market.

Additionally, juice manufacturers having their set-ups in major cities; for instance Karachi, Lahore, Peshawar, Quetta, Rawalpindi, Multan, Gujranwala, Faisalabad, and etc. will also be the potential target customers for the proposed business. In export market, Pakistani fruits have a huge demand in Middle East, Europe, Iran, Russia, USA, Hong Kong, Taiwan, Canada, etc.

9 PROJECT COST SUMMARY

9.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of Rs. 3.07 million in the year one. The grapes production per plant during year one is assumed at 12 Kgs against the maximum produce of 16 Kgs for later years.

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

Table 1: Project Economics

Description	Details
Internal Rate of Return	48%
Net Present Value Rs.	7,019,476
Pay Back Period (years)	2.50

9.2 Project Financing

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

Table 2: Project Financing

Description	Details
Debt (Rs.)	2,134,598
Equity (Rs.)	2,134,598
Mark-Up (%)	12%
Loan Tenure (years)	5

9.3 Project Cost

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

Table 3: Project Cost

Description	Amount Rs.
Capital Cost	
Building/Infrastructure	1,275,000
Machinery & equipment	1,694,000
Furniture & fixtures	31,000
Pre-operating costs	582,329
Total Capital Cost	3,582,329
Working Capital	
Raw material inventory	56,892
Upfront land lease rental	301,570
Cash	328,405
Total Working Capital	686,867
Total Project Cost	4,269,197

9.4 Space Requirement

The proposed grapes farm will be spread on five (05) acres of agricultural land. It is recommended to acquire the land on lease basis. The average lease cost in Southern Punjab, or adjoining Sindh areas or other agricultural locations may vary from 30,000 ~ 70,000 per acres, annually. For the purpose of this pre-feasibility, average land lease cost is estimated at Rs. 60,000 per acres.

The infrastructural requirements of the project mainly comprises of the construction of shed, storage, store and washroom. The cost of construction for the proposed infrastructure requirement is provided in the table below:

Table 4: Space Requirement

Description	Area Sq. Ft.	Cost / Sq. Ft.	Amount Rs.
Grapes Packaging Shed	600	1,000	600,000
Store (Equipment, Fertilizers)	120	1,250	150,000
Wash Room	100	1,250	125,000
Labor Room	120	1,250	150,000
Fruit Storage Room	200	1,250	250,000
Total			1,275,000

9.5 Furniture and Fixture Requirement

Following Furniture and fixture will be required for the proposed grapes cultivation farm:

Table 5: Furniture & Fixture Requirement

Description	Quantity	Cost / Unit	Amount Rs.
Chairs	5	1,500	7,500
Tables	1	7,500	7,500
Stools	4	1,000	4,000
Lighting	1	5,000	5,000
Ceiling fans	2	3,500	7,000
Total Furniture and Fixtures			31,000

9.6 Farm Setup and Equipment Cost Detail

The Pre-operating Cost include farm structure, preparation of land, plantation, etc. Details are stated in table below:

Table 6: Farm Setup and Equipment Cost details

Description	Quantity	Cost / Unit	Amount Rs.
Farm Structure, Plantation and Equipment			
Concrete Pillars	850	400	340,000
Iron Pipes	2,700	175	472,500
Steel wires	425	180	76,500
Other Farm Equipment	1	60,000	60,000
Plastic water tubs for washing grapes	250	500	125,000
Farm tools for pruning, cutting fruits	1	30,000	30,000
Table Grapes Plants	3,000	50	150,000
Spray Machine	1	35,000	35,000
Water Pump & Tank with Installation	1	50,000	50,000
Pit Digging (Rs 60 per plant * 3,000 plants)	3,000	60	180,000
Pit Filling (Rs 50 per plant * 3,000 plants)	3,000	50	150,000
Weighing Scale	1	25,000	25,000
Total			1,694,000

9.7 Human Resource Requirement

Permanent and temporary staff required for the project is given in the table below:

Table 7: Human Resource Requirement

Description	No. of Employees	Monthly Salary per Employee (Rs.)
Farm Supervisor	1	20,000
Workers (Permanent)	1	15,000
Workers (Temporary) for 2 months	5	15,000

It is assumed that the owner would have prior experience or knowledge about the fruit processing business. Salaries of all employees are estimated to increase at 10% annually. Additionally, contractual labor will be engaged in for harvesting and post-harvest handling of fruit.

9.8 Utilities and Other Costs

An essential cost to be borne by the farm is the cost of water, fertilizer and spray of pesticides, which is estimated as Rs. 586,278 during the year one and an increase of 10% annually. Packaging cost is assumed as Rs. 232,875 per annum. Similarly, indirect electricity expense is estimated to be around Rs. 5,000 per month, communication expenses of Rs. 3,000 per month.

9.9 Revenue Generation

Based on the estimated grapes production, the sales revenue during first year of operation will be as follows:

Table 8: Revenue Generation – Year 1

Description	Grape Produced (after wastage) Kgs	Sale Price / unit (Rs.)	Sales Revenue (Rs.)
Grapes	27,945	110	3,073,950

9.10 Raw Material Calculations

Based on the estimated grapes production, the raw material calculations during first year of operation will be as follows:

Table 9: Raw Material Calculations – Year 1

Description	Details
No of Grape Plants Per Acre	600
Costs Before Fruiting	
Green Manure before Sowing (2 Tons Per Acre)	Rs. 10,000 Per Tons (1 Month Before Sowing)

NPK Required (2 Grams / Plant)	Rs. 480 (At the time of Sowing)
Water Before Sowing (1 Time)	Rs. 1,000 Per Acre
Water After Sowing (26 Times, After Every 15 Days)	Rs. 78,000
Cost of Fungal Spray (6 Months After Sowing)	Rs. 2,500 Per Acre
Cost After Fruiting Grapes	
NPK Required (2 Grams / Plant)	Rs. 528 Price of NPK for Year
Green Manure (2 Tons Per Acre)	Rs. 11,000 Per Tons
Cost of Fungal Spray	Rs. 2,750 Per Acre
Irrigation (84 Times Per Year; After every 5 Day for 9 Months, and 3 Days for 3 Months, Apr-May-Jun)	Rs. 1,100 Per Acre
Fruit Wastage	10%
Packaging Cost	Rs. 7.5 Per Kg
Production Cost Growth Rate	10%

10 CONTACT DETAILS

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

10.1 Farm Structure Suppliers

Name of Supplier	Address	Phone	Website
Mr. Javed khan	Sumandri, Faisalabad	0344-4475297	
Cholistan Grapes	CDA, main road Bahawalpur	0312-6400510	www.cholistangrapes.com
Dr. Ashraf	National Agriculture Council, Islamabad	0333-5121879	

10.2 Grapes Plants Suppliers

Name of Supplier	Address	Phone	Website
Dr. Manseb Khoker	National Agriculture Research Council, Islamabad	051-9255027	www.parc.gov.pk
Mr. Ishfaq Iftikhar	Sumandri, Faisalabad	0344-5313625	
Chaudhary Abdul Sattar and Ch. Farooq	District Okara	0300-7376088 0300-6989654	

10.3 Technical Experts / Consultants

Name of Expert / Organization	Address	Phone	Website
Alfateh Group	Alfateh Farms, Bahawalpur	0313- 6819760	www.alfatehfarms.com
Dr. Khalid Mehmud	National Agriculture Research Council, Islamabad	051-9255027	www.parc.gov.pk
Mr. Iftikhar Ahmed	National Agriculture Research Council, Islamabad	0335- 5795064	www.parc.gov.pk
Dr. M. Aslam Parvez	Director Institute of Horticultural Sciences, Faculty of Agriculture, University of Agriculture, Faisalabad	+92-41-920 1281, +92-41-920 0161 Ext. 2952	www.uaf.edu.pk

11 USEFUL WEB LINKS

Small & Medium Enterprises Development Authority (SMEDA)	www.smeda.org.pk
Government of Pakistan	www.pakistan.gov.pk
Ministry of Industries & Production	www.moip.gov.pk
Ministry of Education, Training & Standards in Higher Education	http://moptt.gov.pk
Government of Punjab	www.punjab.gov.pk
Government of Sindh	www.sindh.gov.pk
Government of Khyber Pakhtunkhwa	www.khyberpakhtunkhwa.gov.pk
Government of Balochistan	www.balochistan.gov.pk
Government of Gilgit Baltistan	www.gilgitbaltistan.gov.pk
Government of Azad Jamu Kashmir	www.ajk.gov.pk
Trade Development Authority of Pakistan (TDAP)	www.tdap.gov.pk
Security Commission of Pakistan (SECP)	www.secp.gov.pk
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	www.fpcci.com.pk
State Bank of Pakistan (SBP)	www.sbp.org.pk
Punjab Small Industries Corporation	www.psic.gop.pk
Sindh Small Industries Corporation	www.ssic.gos.pk
Pakistan Horticulture Development Export Company (PHDEC)	www.phdec.org
Ministry of National Food Security and Research (MNFSR)	www.mnsfr.gov.pk
Pakistan Agriculture Research Council (PARC)	www.parc.gov.pk
National Agriculture Research Council (NARC)	www.narc.gov.pk
Agriculture University of Faisalabad (UAF)	www.uaf.edu.pk
Agriculture Department Government of Punjab	www.punjabagri.gov.pk

Agriculture Department Government of Sindh

www.sindhagri.gov.pk

Agriculture Department Government of KPK

www.khyberpakhtunkhwa.gov.pk

12 ANNEXURES

12.1 Income Statement

Calculations	SMEDA									
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	3,073,950	4,508,460	4,959,306	5,455,237	6,000,760	6,600,836	7,260,920	7,987,012	8,785,713	9,664,284
<i>Cost of sales</i>	-	-	-	-	-	-	-	-	-	-
Fertilizers, Spray, Irrigation, Green Manures, etc.	586,278	644,906	709,396	780,336	858,370	944,207	1,038,627	1,142,490	1,256,739	1,382,413
Packaging Cost	232,875	341,550	375,705	413,276	454,603	500,063	550,070	605,077	665,584	732,143
Operation costs 1 (direct labor)	546,250	600,875	660,963	727,059	799,765	879,741	967,715	1,064,487	1,170,935	1,288,029
Total cost of sales	1,365,403	1,587,331	1,746,064	1,920,670	2,112,737	2,324,011	2,556,412	2,812,053	3,093,259	3,402,585
Gross Profit	1,708,547	2,921,129	3,213,242	3,534,566	3,888,023	4,276,825	4,704,508	5,174,959	5,692,454	6,261,700
<i>General administration & selling expenses</i>										
Land lease rental expense	301,570	301,570	301,570	301,570	301,570	301,570	301,570	301,570	301,570	301,570
Electricity expense	60,000	66,000	72,600	79,860	87,846	96,631	106,294	116,923	128,615	141,477
Communications expense (phone, fax, mail, internet, etc.)	36,000	39,600	43,560	47,916	52,708	57,978	63,776	70,154	77,169	84,886
Office expenses (stationary, entertainment, janitorial services, etc)	10,000	11,000	12,100	13,310	14,641	16,105	17,716	19,487	21,436	23,579
Promotional expense	61,479	90,169	99,186	109,105	120,015	132,017	145,218	159,740	175,714	193,286
Depreciation expense	236,250	236,250	236,250	236,250	236,250	236,250	236,250	236,250	236,250	236,250
Amortization of pre-operating costs	116,466	116,466	116,466	116,466	116,466	-	-	-	-	-
Subtotal	821,765	861,055	881,732	904,477	929,496	840,551	870,824	904,124	940,755	981,048
Operating Income	886,782	2,060,074	2,331,510	2,630,089	2,958,527	3,436,274	3,833,684	4,270,834	4,751,700	5,280,651
Earnings Before Interest & Taxes	886,782	2,060,074	2,331,510	2,630,089	2,958,527	3,436,274	3,833,684	4,270,834	4,751,700	5,280,651
Interest expense on long term debt (Project Loan)	199,971	164,695	124,944	80,153	29,680	-	-	-	-	-
Interest expense on long term debt (Working Capital Loan)	44,890	37,273	28,519	18,457	6,893	-	-	-	-	-
Subtotal	244,861	201,968	153,463	98,610	36,573	-	-	-	-	-
Earnings Before Tax	641,920	1,858,106	2,178,047	2,531,480	2,921,954	3,436,274	3,833,684	4,270,834	4,751,700	5,280,651
Tax	73,788	256,216	304,207	357,222	415,793	492,941	552,552	618,125	690,255	769,597
NET PROFIT/(LOSS) AFTER TAX	568,133	1,601,890	1,873,840	2,174,258	2,506,161	2,943,333	3,281,131	3,652,709	4,061,445	4,511,054

12.2 Balance Sheet

Calculations											SMEDA
Balance Sheet											
Assets	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Current assets</i>											
Cash & Bank	328,405	755,201	2,290,860	4,037,550	6,045,083	8,315,720	11,436,569	14,885,889	18,695,801	22,901,486	28,230,905
Accounts receivable		126,327	155,803	194,543	213,997	235,397	258,937	284,831	313,314	344,645	379,110
Finished goods inventory		59,365	69,014	75,916	83,507	91,858	101,044	111,148	122,263	134,490	147,938
Raw material inventory	56,892	72,753	88,031	106,517	128,886	155,952	188,702	228,329	276,278	334,297	-
Pre-paid annual land lease	301,570	301,570	301,570	301,570	301,570	301,570	301,570	301,570	301,570	301,570	-
Total Current Assets	686,867	1,315,216	2,905,279	4,716,097	6,773,044	9,100,497	12,286,822	15,811,767	19,709,226	24,016,487	28,757,953
<i>Fixed assets</i>											
Building/Infrastructure	1,275,000	1,211,250	1,147,500	1,083,750	1,020,000	956,250	892,500	828,750	765,000	701,250	637,500
Machinery & equipment	1,694,000	1,524,600	1,355,200	1,185,800	1,016,400	847,000	677,600	508,200	338,800	169,400	-
Furniture & fixtures	31,000	27,900	24,800	21,700	18,600	15,500	12,400	9,300	6,200	3,100	-
Total Fixed Assets	3,000,000	2,763,750	2,527,500	2,291,250	2,055,000	1,818,750	1,582,500	1,346,250	1,110,000	873,750	637,500
<i>Intangible assets</i>											
Pre-operation costs	582,329	465,863	349,398	232,932	116,466	-	-	-	-	-	-
Total Intangible Assets	582,329	465,863	349,398	232,932	116,466	-	-	-	-	-	-
TOTAL ASSETS	4,269,197	4,544,829	5,782,176	7,240,278	8,944,510	10,919,247	13,869,322	17,158,017	20,819,226	24,890,237	29,395,453
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable		36,654	44,157	48,971	54,349	60,367	67,108	74,672	83,172	92,738	86,900
Total Current Liabilities	-	36,654	44,157	48,971	54,349	60,367	67,108	74,672	83,172	92,738	86,900
<i>Other liabilities</i>											
Long term debt (Project Loan)	1,791,165	1,513,014	1,199,587	846,410	448,441	-	-	-	-	-	-
Long term debt (Working Capital Loan)	343,434	292,431	233,811	166,437	89,001	-	-	-	-	-	-
Total Long Term Liabilities	2,134,598	1,805,445	1,433,398	1,012,847	537,442	-	-	-	-	-	-
<i>Shareholders' equity</i>											
Paid-up capital	2,134,598	2,134,598	2,134,598	2,134,598	2,134,598	2,134,598	2,134,598	2,134,598	2,134,598	2,134,598	2,134,598
Retained earnings		568,133	2,170,023	4,043,863	6,218,121	8,724,282	11,667,615	14,948,747	18,601,456	22,662,901	27,173,955
Total Equity	2,134,598	2,702,731	4,304,621	6,178,461	8,352,719	10,858,880	13,802,214	17,083,345	20,736,054	24,797,499	29,308,553
TOTAL CAPITAL AND LIABILITIES	4,269,197	4,544,829	5,782,176	7,240,278	8,944,510	10,919,247	13,869,322	17,158,017	20,819,226	24,890,237	29,395,453

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
<i>Operating activities</i>											
Net profit		568,133	1,601,890	1,873,840	2,174,258	2,506,161	2,943,333	3,281,131	3,652,709	4,061,445	4,511,054
Add: depreciation expense		236,250	236,250	236,250	236,250	236,250	236,250	236,250	236,250	236,250	236,250
amortization of pre-operating costs		116,466	116,466	116,466	116,466	116,466	-	-	-	-	-
Accounts receivable		(126,327)	(29,476)	(38,740)	(19,454)	(21,400)	(23,540)	(25,894)	(28,483)	(31,331)	(34,465)
Finished goods inventory		(59,365)	(9,649)	(6,901)	(7,592)	(8,351)	(9,186)	(10,104)	(11,115)	(12,226)	(13,449)
Raw material inventory	(56,892)	(15,861)	(15,278)	(18,486)	(22,369)	(27,066)	(32,750)	(39,627)	(47,949)	(58,018)	334,297
Accounts payable		36,654	7,503	4,814	5,379	6,018	6,742	7,564	8,499	9,566	(5,838)
Cash provided by operations	(56,892)	755,949	1,907,706	2,167,241	2,482,938	2,808,078	3,120,850	3,449,320	3,809,912	4,205,685	5,027,849
<i>Financing activities</i>											
Project Loan - principal repayment		(278,150)	(313,427)	(353,177)	(397,969)	(448,441)	-	-	-	-	-
Working Capital Loan - principal repayment		(51,003)	(58,620)	(67,374)	(77,436)	(89,001)	-	-	-	-	-
Add: land lease expense		301,570	301,570	301,570	301,570	301,570	301,570	301,570	301,570	301,570	301,570
Land lease payment	(301,570)	(301,570)	(301,570)	(301,570)	(301,570)	(301,570)	(301,570)	(301,570)	(301,570)	(301,570)	-
Additions to Project Loan	1,791,165	-	-	-	-	-	-	-	-	-	-
Additions to Working Capital Loan	343,434	-	-	-	-	-	-	-	-	-	-
Issuance of shares	2,134,598	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares											
Cash provided by / (used for) financing activities	3,967,626	(329,153)	(372,047)	(420,551)	(475,405)	(537,442)	-	-	-	-	301,570
<i>Investing activities</i>											
Capital expenditure	(3,582,329)	-	-	-	-	-	-	-	-	-	-
Acquisitions											
Cash (used for) / provided by investing activities	(3,582,329)	-	-	-	-	-	-	-	-	-	-
NET CASH	328,405	426,796	1,535,659	1,746,690	2,007,533	2,270,636	3,120,850	3,449,320	3,809,912	4,205,685	5,329,419

13 KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Description	Details
Communication Expenses	Rs. 3,000 Per Month
Office Expenses (Stationary, Entertainment, Janitorial Services, etc.)	Rs. 10,000 Per Year
Depreciation Method	Straight Line
Depreciation Rate	10% on Furniture & Fixtures 10% on Office Equipment
Operating Cost Growth Rate	10%

13.2 Production Cost Assumptions

Description	Details
No of Grape Plants Per Acre	600
Costs Before Fruiting	
Green Manure before Sowing (2 Tons Per Acre)	Rs. 10,000 Per Tons (1 Month Before Sowing)
NPK Required (2 Grams / Plant)	Rs. 480 (At the time of Sowing)
Water Before Sowing (1 Time)	Rs. 1,000 Per Acre
Water After Sowing (26 Times, After Every 15 Days)	Rs. 78,000
Cost of Fungal Spray (6 Months After Sowing)	Rs. 2,500 Per Acre
Cost After Fruiting Grapes	
NPK Required (2 Grams / Plant)	Rs. 528 Price of NPK for Year
Green Manure (2 Tons Per Acre)	Rs. 11,000 Per Tons
Cost of Fungal Spray	Rs. 2,750 Per Acre
Irrigation (84 Times Per Year; After every 5 Day for 9 Months, and 3 Days for 3 Months, Apr-May-Jun)	Rs. 1,100 Per Acre
Fruit Wastage	10%
Packaging Cost	Rs. 7.5 Per Kg
Production Cost Growth Rate	10%

13.3 Revenue Assumptions

Description	Details
Sale Price Per Kg	Rs. 110
Growth in Sales Price	10%
Days Operational / Year	330
Maximum Grapes Produced Per Plant	16 Kg
Grapes Production Per Plant in Year 1	12 Kg

13.4 Financial Assumptions

Description	Details
Debt	50%
Equity	50%
Interest Rate on Debt	14%
Debt Tenure	5 Years
Debt Payment / Year	12

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