



Pre-feasibility Study

Off Season Vegetable Farming (High Tunnel)

November 2023

“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

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1 DISCLAIMER

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1 EXECUTIVE SUMMARY

Tunnel farming is practiced in many areas of Pakistan and is gaining popularity. Faisalabad, Mamokanjan, Gujranwala, Okara & Sahiwal are the most prominent cities for tunnel farming.

The proposed project is a medium sized off-season vegetable tunnel farm, spreading over 9 acres. Off-season vegetables will be cultivated in this project using high tunnel technology. The three vegetables cultivated in this particular project are Tomato, Sweet Pepper and Cucumber. The total time; from land preparation to harvesting, is around 7 months.

The estimated yield of the farm varies according to the type of vegetables selected. The proposed vegetable mix for this pre-feasibility will be cultivated on 9 acres of land. The numbers of plantations each year are 10,000 plants of tomato, 15,000 plants of sweet pepper and 15,000 plants of cucumber. The estimated produce would be 55 tons of tomato, 25 tons of sweet pepper and 45 tons of cucumber respectively.

Complete adherence to best agronomic practices is critical to the success of this project. Therefore, technical knowledge & experience of the entrepreneur is absolutely necessary.

The cost for setting up the high tunnel farm is estimated at Rs. 16.58 million out of which Rs. 5.46 million is the capital cost and Rs. 11.12 million is for working capital. The project NPV is projected at Rs. 8.59 million with an IRR of 39% and payback period is 3.12 years respectively.

2 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.

3 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 **Off-season Vegetable Farming (High Tunnel)** 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.

4 BRIEF DESCRIPTION OF PROJECT & PRODUCT

Vegetables can be cultivated in off-season, with introduction of techniques like tunnel technology, in which temperature and moisture is controlled for growth of vegetables in specific conditions. The production of vegetables all-round the year, enables the technically competent growers to fully utilize their resources and achieve higher income as compared to traditional crops.

The proposed project is designed as a medium sized off-season vegetable farming unit on 9 acres of land. Off-season vegetables, such as, tomatoes, chillies / hot pepper, cucumber, brinjal, sweet peppers, ridge-gourd (teenda) and bitter-gourd (karela) can be cultivated using high tunnel technology. However, for the purpose of this pre-feasibility, three crops are being proposed, namely, tomato, sweet pepper, and cucumber.

The farm will provide employment opportunities to 10 individuals directly, while seasonal pickers and packers would also be required. The estimated yield potential of the farm varies according to the selected type of vegetable. With above-mentioned vegetable mix, combined yield of 125 tons per season excluding wastage.

4.1 High Tunnel Structure Specification

The proposed off-season vegetable farm is recommended with the use of high tunnels of bamboo structure, for which construction cost is quite low. The details of high tunnel structure is given in the following table:

Table 1 : Specifications of High Tunnel

Material Specification	Material	Description
	Bamboo	Diameter 2~3 inch Length 8.5~20 ft
	Plastic	0.10 mm thick
Tunnel Specification	Dimensions	Requirement
	Height	10 ft
	Width	30~32 ft
	Length	200 ft
	No. of tunnels	6 per acre

The cost of such tunnel amounts to Rs. 5,184,000 excluding the cost related to plastic used as a shield (Cover) and mulch.

Figure 1 - High Plastic Tunnel

4.2 Support Structure

Each tunnel will be 200 feet long, 10 feet high and 30~32 feet wide. The tunnel is built by 2~3 inch diameter bamboo having 8.5~20 feet length. The bamboos are fixed at regular distance of approximately 10~15 feet. Each tunnel structure will then be covered by 0.10 mm thick plastic sheet. Approximately 6 tunnels can be constructed on an acre of land depending on the type of vegetable, i.e. tomato, sweet pepper and cucumber.

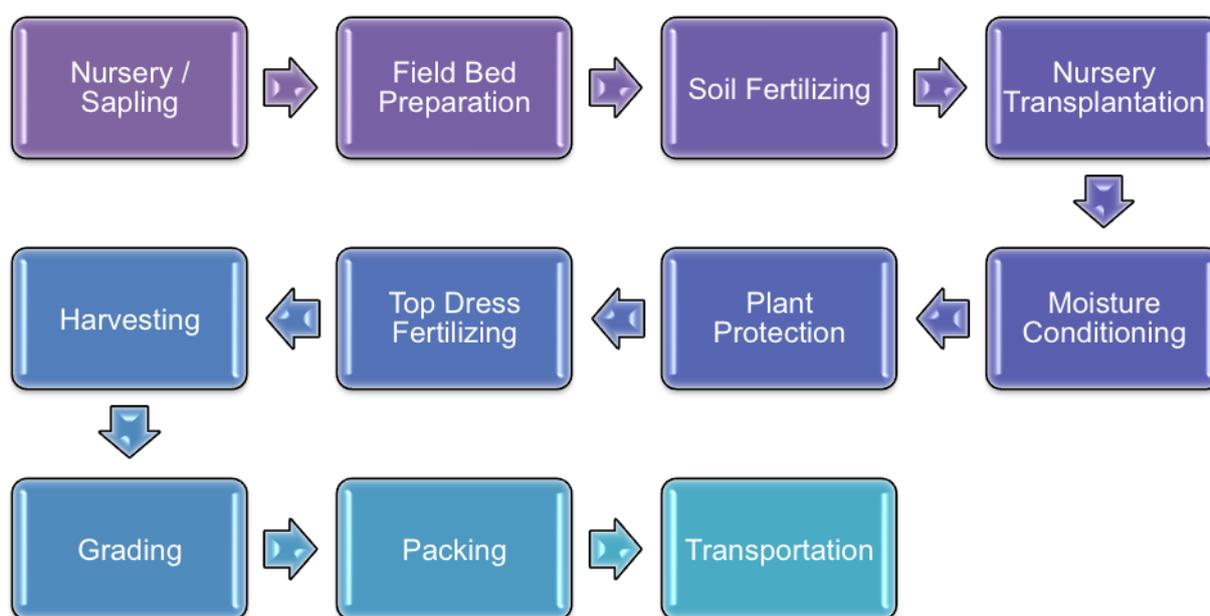
4.3 Installed and Operational Capacities

Following table provides information on the total production, inclusive of 10% wastage:

Table 2: Total Production Capacity

Vegetables	Area (Acres)	No of Plants / Acre	Total Production (kgs)
Tomato	4	10,000	55,000
Sweet Pepper	2	15,000	25,000
Cucumber	3	15,000	45,000

4.4 Production Process Flow



5 CRITICAL FACTORS

Following principles need to be pursued for best productivity of vegetables:

- ⇒ Proper soil analysis for determining soil nutritional level.
- ⇒ Use of high quality hybrid seeds.
- ⇒ Fertile land and its maintenance within the tunnel during the period of cultivation.
- ⇒ Timely control of pests, diseases and implementation of all recommended agronomic measures.
- ⇒ Selection of profitable vegetables on the basis of best analysis of cost and revenues for a given season. Cost efficiency through better management.
- ⇒ Maintenance and control of internal temperature and humidity of the tunnel.
- ⇒ Timely irrigation, fertilization, training and grading of plantation.

- ⇒ Fertilization as per expert(s) recommendation.
- ⇒ Appropriate post-harvest arrangement for washing, grading, packing, and transportation of product to the market.

6 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

As per the information gathered from Agriculture Department, Government of Punjab, and National Agricultural Research Center, Islamabad, following are the potential areas of off-season vegetable production:

Mamonkangan, Nankana Sahib, Faisalabad, Kamalia in Toba Tek Singh, Rahim Yar Khan, Chack Shahzad, Islamabad, Swat, Tarnab, Mardan, Khairabad, Mirpur Khas, Chiniot, etc., in addition to few other locations in Sindh and Balochistan.

7 POTENTIAL TARGET CUSTOMERS / MARKETS

Keeping in view the product price level, demand and purchasing power of customers; whole sale vegetable markets in metropolitan cities / urban areas are the potential markets for off season vegetables.

8 PROJECT SUMMARY

A detailed financial model has been developed to analyze the commercial viability of Off Season Vegetable Farming (High Tunnel). Various cost and revenue related assumptions along with results of the analysis are outlined in this section.

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

8.1 Project Economics

The following table shows internal rate of return, payback period and net present value of the project.

Table 3 : Project Economics

Description	Details
Internal Rate of Return (IRR)	39%
Payback Period (Yrs.)	3.12
Net Present Value (NPV) Rs.	8,589,341

Returns on investment and its profitability are highly dependent on the entrepreneur having some practical knowledge about agriculture and farming, selection of fertile land, selection of high yield seed, cultivation, vegetables and selection of right time

for vegetable cultivation.

Table 4: Breakeven (100% Equity Based)

Break-Even Analysis	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Break-Even Revenue (In Millions)	2.0	2.1	2.2	2.4	2.6	2.7	3.0	3.2	3.4	3.7
Break-even Produce (Kgs)	57,052	54,389	52,118	52,151	50,156	47,969	48,031	46,542	45,238	45,283
Margin of Safety	84%	85%	86%	86%	87%	87%	87%	87%	87%	87%

8.2 Project Financing

Table 5: Project Economics Based on Debt (50%): Equity (50%)

Description	Details
Internal Rate of Return (IRR)	39%
Payback Period (Yrs.)	3.12
Net Present Value (NPV) Rs.	8,272,888

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

Table 6 : Project Financing

Description	Details
Total Equity (50%)	8,290,085
Bank Loan (50%)	8,290,085
Markup to the Borrower (%age/annum)	26%
Tenure of the Loan (Years)	5

8.3 Project Cost

Following requirements have been identified for operations of the proposed business:

Table 7 : Project Cost Summary

Description	Amount Rs.
Capital Cost	
Farm Tools	135,000
Furniture and Fixtures	96,000
Tunnel Equipment	5,184,000
Pre-operating Cost	50,000
Total Capital Cost	5,465,000
Working Capital	
Cash	3,049,533
Raw Material Inventory	6,715,636
Upfront Land Lease Rental	1,350,000
Total Working Capital	11,115,169
Total Project Cost	16,580,169

8.4 Land Requirement

The area has been calculated on the basis of minimum viable land required for setting up Off-Season Vegetable Farm (High Tunnel). However, the existing units do not follow any set pattern. Following table shows calculations for project space requirement.

Table 8 : Land Requirement

Vegetable	Land Utilization (Acres)	Land Lease Cost per Acre (Rs.)	Total Land Lease Cost (Rs.)
Tomato	4	150,000	600,000
Sweet pepper	2	150,000	300,000
Cucumber	3	150,000	450,000
Total	9		1,350,000

As land will be acquired on lease, hence total land lease cost during 1st year would be approximately Rs. 1,350,000.

8.5 Farm Tools

Farm tools required for an off-season vegetable farm can be purchased or rented by paying on hourly basis. In this particular Pre-feasibility, it has been assumed that machinery for hoeing and land preparation would be rented, while spray machine and some tools would be purchased.

Following table provides list of machinery and tunnel farm equipment required for Off-Season Vegetable Farming (High Tunnel).

Table 9 : List of Machinery

Description	Replacement Year	Quantity	Cost Rs. / Unit	Total Rs.
Farm Tools (Hand Tools)	5	1	75,000	75,000
Spray Machines	5	5	12,000	60,000
Total				135,000

8.6 Furniture and Fixture

Furniture and fixture required for an off-season vegetable farm are given below in the table:

Table 10 : Furniture and Fixture Requirement

Description	Replacement Year	Quantity	Cost Rs. / Unit	Total Rs.
Working Tables	5	4	15,000	60,000
Chairs	5	8	4,500	36,000
Total				96,000

8.7 High Tunnel Equipment

High tunnel structure requirements for 9 acres are given in the table below:

Table 11 : Structure Requirement for High Tunnel

Description	Replacement Year	Qty.	Unit Cost (Rs.)	Total Amount (Rs.)
Bamboos (Nos.)	3	94,500	50	4,725,000

Wire (G. Iron) (Kg)	3	900	300	270,000
Wire stretchers (Nos.)	3	630	300	189,000
Total Equipment Cost				5,184,000

8.8 Plastic Sheet and Structure Installation Requirement

Plastic sheet and structure installation requirement for 9 acres of land are given in the table below:

Table 12: Plastic Sheet and Structure Installation Requirement

Description	Qty.	Unit Cost (Rs.)	Total Amount (Rs.)
Plastic Sheet - White (Kg)	2,250	600	1,350,000
Plastic Mulch - Black (Kg)	180	630	113,400
Structure installation cost (Acres)	9	120,000	1,080,000
Total			2,543,400

8.9 Raw Material Requirements

Following table shows raw material requirement:

Table 13: Plants Cost

Vegetables	Area (acres)	No. of Plants / Acre	Unit Cost Rs.	Total Cost of Plants / Acre (Rs.)
Tomato	4	10,000	10	100,000
Sweet pepper	2	15,000	7	105,000
Cucumber	3	15,000	5	75,000
Total	9			280,000

Apart from high yield seeds, following other raw material will also be required for cultivating off-season vegetables:

Table 14: Fertilizer Requirement

Description	Qty. Bags / Acre	Unit Costs (Rs.)	Total Fertilizer Cost / Acre (Rs.)
CAN	8	3,326	26,608
Nitrophos	4	8,274	33,096
DAP	2	13,300	26,600
SOP	8	12,750	102,000
Total Cost of Fertilizer			188,304

Table 15: Pesticides Requirement

Description	Unit	Qty.	Unit Costs (Rs.)	Total Cost (Rs.)
Fungicide	Area	9	60,000	540,000
Insecticide	Area	9	20,000	180,000
Total Pesticide Spray Cost				720,000

8.10 Human Resource Requirement

Owner / Manager will be engaged for 8 months per year, whereas, permanent and temporary labor will be engaged for 7 months and 2 months respectively.

Table 16 : Human Resource Requirement (Permanent)

Description	No. of Employees	Salary per Month (Rs.)	Salary / Season (Rs.)
Owner / Farm Manager	1	50,000	400,000
Permanent Labor	9	32,000	2,016,000
Total Staff			2,416,000

Five pickings per month are assumed from 1 acre with an average rate of Rs. 550 per picking per person. Following table shows the calculations for temporary labor wage:

Table 17 : Human Resource Requirement (Temporary)

Description	Number	Wages (Rs. per picking / person)	Total Seasonal Wages (Rs.)
Temporary Labor	9	Male: 550 Female: 550	623,700

Salaries of all employees / workers are estimated to increase at 10% annually.

8.11 Revenue Generation

Expected production and sale prices of vegetables are given in the table below:

Table 18: Expected Production and Revenue Generation

Vegetable	Land Utilization (Acres)	Sale Price (Rs./ Kg)	First Year Production excl. Wastage (Kg)	First Year Sales Revenue (Rs)
Tomato	4	55	55,000	12,100,000
Sweet pepper	2	60	25,000	3,000,000
Cucumber	3	50	45,000	6,750,000
Empty bags of Fertilizer				1,980
Total Sales Revenue				21,851,980

The price of vegetables in normal season is around one-third of the price of vegetables grown in off-season.

8.12 Other Costs

An essential cost to be borne by the farm is the transportation cost incurred during transfer of vegetables from the farm to the market, which is estimated as Rs. 607,500 for year one. Similarly, electricity expense is estimated to be around Rs. 52,500 for first year.

9 CONTACT DETAILS

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

Institution	Phone
Agriculture Department, Govt. of Punjab 21-Davis Road, Lahore	92-42-99200732

Institute of Horticultural Sciences, Faculty of Agriculture, University of Agriculture, Faisalabad	+92-41-9201281
Horticulture Research Institute National Agricultural Research Centre Park Road, Islamabad	+92-51 9255061

10 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 and Export Company (PHDEC)	www.phdec.org.pk
Punjab Agriculture Department	www.agripunjab.gov.pk
Ministry of National Food Security and Research (MNFS&R)	http://www.mnfsr.gov.pk/
Punjab Agriculture and Meat Company	www.pamco.bz
Farmers Associates Pakistan	www.farmersassociates.com
Punjab Agriculture Department	www.agripunjab.gov.pk

Pakistan Agriculture And Dairy Farm
Association

www.padfapak.org

Sindh Chamber of Agriculture

www.sindhchamberofagriculture.com

11 ANNEXURES

11.1 Income Statement

Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	21,851,980	24,037,178	26,440,896	29,084,985	31,993,484	35,192,832	38,712,116	42,583,327	46,841,660	51,525,826
<i>Cost of sales</i>										
Plastic Sheet (white)	1,350,000	1,485,000	1,633,500	1,796,850	1,976,535	2,174,189	2,391,607	2,630,768	2,893,845	3,183,229
Plastic Mulch	113,400	124,740	137,214	150,935	166,029	182,632	200,895	220,985	243,083	267,391
Structure installation cost	1,080,000	1,188,000	1,306,800	1,437,480	1,581,228	1,739,351	1,913,286	2,104,614	2,315,076	2,546,584
Plants expense	835,000	918,500	1,010,350	1,111,385	1,222,524	1,344,776	1,479,253	1,627,179	1,789,897	1,968,886
Fertilizer expense	1,694,736	1,864,210	2,050,631	2,255,694	2,481,263	2,729,389	3,002,328	3,302,561	3,632,817	3,996,099
Pesticide expense	720,000	792,000	871,200	958,320	1,054,152	1,159,567	1,275,524	1,403,076	1,543,384	1,697,722
Green Manuring and Land Preparation	540,000	594,000	653,400	718,740	790,614	869,675	956,643	1,052,307	1,157,538	1,273,292
Weeding	45,000	49,500	54,450	59,895	65,885	72,473	79,720	87,692	96,461	106,108
Irrigation expense	337,500	344,250	351,135	358,158	365,321	372,627	380,080	387,681	395,435	403,344
Direct labor	2,639,700	2,903,670	3,194,037	3,513,441	3,864,785	4,251,263	4,676,390	5,144,029	5,658,431	6,224,275
Transportation Cost from Farm to Market	607,500	668,250	735,075	808,583	889,441	978,385	1,076,223	1,183,846	1,302,230	1,432,453
Packing expense	424,333	445,550	467,828	491,219	515,780	541,569	568,647	597,080	626,934	658,280
Total cost of sales	10,387,169	11,377,670	12,465,619	13,660,699	14,973,555	16,415,896	18,000,597	19,741,818	21,655,131	23,757,663
Gross Profit	11,464,811	12,659,508	13,975,277	15,424,287	17,019,929	18,776,936	20,711,519	22,841,509	25,186,529	27,768,163
<i>General administration & selling expenses</i>										
Administration expense	400,000	440,000	484,000	532,400	585,640	644,204	708,624	779,487	857,436	943,179
Administration benefits expense	20,000	22,000	24,200	26,620	29,282	32,210	35,431	38,974	42,872	47,159
Land lease rental expense	1,350,000	1,485,000	1,633,500	1,796,850	1,976,535	2,174,189	2,391,607	2,630,768	2,893,845	3,183,229
Electricity expense	52,500	57,750	63,525	69,878	76,865	84,552	93,007	102,308	112,538	123,792
Travelling expense	35,000	36,750	38,588	40,517	42,543	44,670	46,903	49,249	51,711	54,296
Communications expense (phone, mail, etc.)	21,000	22,050	23,153	24,310	25,526	26,802	28,142	29,549	31,027	32,578
Misc. expenses	20,000	22,000	24,200	26,620	29,282	32,210	35,431	38,974	42,872	47,159
Vegetable Market expense	2,185,198	2,403,718	2,644,090	2,908,499	3,199,348	3,519,283	3,871,212	4,258,333	4,684,166	5,152,583
Depreciation expense	1,751,100	1,751,100	1,751,100	2,023,476	2,023,476	2,040,706	2,356,015	2,356,015	2,356,015	2,721,025
Amortization of pre-operating costs	10,000	10,000	10,000	10,000	10,000	-	-	-	-	-
Subtotal	5,844,798	6,250,368	6,696,355	7,459,169	7,998,497	8,598,825	9,566,373	10,283,657	11,072,481	12,305,001
Operating Income	5,620,013	6,409,141	7,278,922	7,965,118	9,021,432	10,178,111	11,145,145	12,557,853	14,114,048	15,463,162
Earnings Before Interest & Taxes	5,620,013	6,409,141	7,278,922	7,965,118	9,021,432	10,178,111	11,145,145	12,557,853	14,114,048	15,463,162
Interest expense on long term debt (Project Loan)	-	-	-	-	-	-	-	-	-	-
Interest expense on long term debt (Working Capital Loan)	-	-	-	-	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-	-	-	-	-
Earnings Before Tax	5,620,013	6,409,141	7,278,922	7,965,118	9,021,432	10,178,111	11,145,145	12,557,853	14,114,048	15,463,162
Tax	1,332,004	1,608,199	1,912,622	2,152,791	2,522,501	2,927,338	3,265,801	3,760,248	4,304,916	4,777,107
NET PROFIT/(LOSS) AFTER TAX	4,288,009	4,800,942	5,366,300	5,812,327	6,498,931	7,250,772	7,879,345	8,797,605	9,809,131	10,686,056

11.2 Balance Sheet

Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
<i>Current assets</i>											
Cash & Bank	3,049,533	9,232,003	16,524,310	18,577,074	27,491,486	37,182,069	41,143,184	53,203,232	66,532,483	73,218,002	109,604,824
Accounts receivable		419,079	440,033	484,036	532,440	585,684	644,252	708,678	779,545	857,500	943,250
Raw material inventory	6,715,636	7,360,200	8,068,680	8,847,457	9,703,550	10,644,679	11,679,337	12,816,864	14,067,536	15,442,655	337,500
Pre-paid annual land lease	1,350,000	1,485,000	1,633,500	1,796,850	1,976,535	2,174,189	2,391,607	2,630,768	2,893,845	3,183,229	-
Total Current Assets	11,115,169	18,496,282	26,666,523	29,705,417	39,704,010	50,586,620	55,858,381	69,359,542	84,273,409	92,701,386	110,885,574
<i>Fixed assets</i>											
Machinery & equipment	135,000	121,500	108,000	94,500	81,000	239,798	209,068	178,338	147,609	116,879	86,149
Furniture & fixtures	96,000	86,400	76,800	67,200	57,600	48,000	38,400	28,800	19,200	9,600	-
Tunnel equipment	5,184,000	3,456,000	1,728,000	6,001,128	4,000,752	2,000,376	6,947,056	4,631,371	2,315,685	8,042,085	5,361,390
Total Fixed Assets	5,415,000	3,663,900	1,912,800	6,162,828	4,139,352	2,288,174	7,194,524	4,838,509	2,482,494	8,168,564	5,447,539
<i>Intangible assets</i>											
Pre-operation costs	50,000	40,000	30,000	20,000	10,000	-	-	-	-	-	-
Total Intangible Assets	50,000	40,000	30,000	20,000	10,000	-	-	-	-	-	-
TOTAL ASSETS	16,580,169	22,200,182	28,609,323	35,888,245	43,853,362	52,874,794	63,052,905	74,198,050	86,755,903	100,869,951	116,333,113
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Total Current Liabilities	-	-									
<i>Other liabilities</i>											
Deferred tax		1,332,004	2,940,203	4,852,825	7,005,616	9,528,117	12,455,455	15,721,256	19,481,504	23,786,420	28,563,527
Long term debt (Project Loan)	-	-	-	-	-	-	-	-	-	-	-
Long term debt (Working Capital Loan)	-	-	-	-	-	-	-	-	-	-	-
Total Long Term Liabilities	-	1,332,004	2,940,203	4,852,825	7,005,616	9,528,117	12,455,455	15,721,256	19,481,504	23,786,420	28,563,527
<i>Shareholders' equity</i>											
Paid-up capital	16,580,169	16,580,169	16,580,169	16,580,169	16,580,169	16,580,169	16,580,169	16,580,169	16,580,169	16,580,169	16,580,169
Retained earnings		4,288,009	9,088,950	14,455,250	20,267,577	26,766,508	34,017,280	41,896,625	50,694,230	60,503,361	71,189,417
Total Equity	16,580,169	20,868,178	25,669,120	31,035,419	36,847,746	43,346,677	50,597,450	58,476,795	67,274,399	77,083,530	87,769,586
TOTAL CAPITAL AND LIABILITIES	16,580,169	22,200,182	28,609,323	35,888,245	43,853,362	52,874,794	63,052,905	74,198,050	86,755,903	100,869,951	116,333,113

11.3 Cash Flow Statement

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		4,288,009	4,800,942	5,366,300	5,812,327	6,498,931	7,250,772	7,879,345	8,797,605	9,809,131	10,686,056
Add: depreciation expense		1,751,100	1,751,100	1,751,100	2,023,476	2,023,476	2,040,706	2,356,015	2,356,015	2,356,015	2,721,025
amortization of pre-operating costs		10,000	10,000	10,000	10,000	10,000	-	-	-	-	-
Deferred income tax		1,332,004	1,608,199	1,912,622	2,152,791	2,522,501	2,927,338	3,265,801	3,760,248	4,304,916	4,777,107
Accounts receivable		(419,079)	(20,954)	(44,003)	(48,404)	(53,244)	(58,568)	(64,425)	(70,868)	(77,955)	(85,750)
Raw material inventory	(6,715,636)	(644,564)	(708,480)	(778,777)	(856,093)	(941,129)	(1,034,658)	(1,137,527)	(1,250,672)	(1,375,119)	15,105,155
Cash provided by operations	(6,715,636)	6,317,470	7,440,807	8,217,242	9,094,097	10,060,535	11,125,591	12,299,208	13,592,328	15,016,989	33,203,592
<i>Financing activities</i>											
Project Loan - principal repayment		-	-	-	-	-	-	-	-	-	-
Working Capital Loan - principal repayment		-	-	-	-	-	-	-	-	-	-
Add: land lease expense		1,350,000	1,485,000	1,633,500	1,796,850	1,976,535	2,174,189	2,391,607	2,630,768	2,893,845	3,183,229
Land lease payment	(1,350,000)	(1,485,000)	(1,633,500)	(1,796,850)	(1,976,535)	(2,174,189)	(2,391,607)	(2,630,768)	(2,893,845)	(3,183,229)	-
Additions to Project Loan	-	-	-	-	-	-	-	-	-	-	-
Additions to Working Capital Loan	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	16,580,169	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	15,230,169	(135,000)	(148,500)	(163,350)	(179,685)	(197,654)	(217,419)	(239,161)	(263,077)	(289,384)	3,183,229
<i>Investing activities</i>											
Capital expenditure	(5,465,000)	-	-	(6,001,128)	-	(172,298)	(6,947,056)	-	-	(8,042,085)	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by investing activities	(5,465,000)	-	-	(6,001,128)	-	(172,298)	(6,947,056)	-	-	(8,042,085)	-
NET CASH	3,049,533	6,182,470	7,292,307	2,052,764	8,914,412	9,690,583	3,961,116	12,060,047	13,329,251	6,685,519	36,386,822

12 KEY ASSUMPTIONS

12.1 Operating Cost Assumptions

Description	Details
Administration Benefit Expenses	05% of Admin Expense
Communication Expenses	21,000 Annual Expense
Travelling Expense	35,000 Annual Expense
Promotional expense % of admin expense	1.0% of Revenue
Professional Fees (Legal, Audit, Consultant)	0.5% of Revenue
Office Expenses (stationary, entertainment, janitorial services, etc.)	5.0%
Depreciation on Tunnel Equipment	33%
Operating Costs Growth Rate	10%
Accounts Receivable Cycle	07 Days
Raw Material Inventory	06 Months
Amortization Of Pre-Operating Expenses	05 Years

12.2 Production Cost Assumptions

Description	Details
Cost of Goods Sold Growth Rate	10%
Operating Cost Growth Rate	05%
Vegetable Market Expense	10% of Revenue
Miscellaneous Expense	05% of Admin Expense
Farm to Market Trip Cost	Rs. 607,500 Per Trip Cost: 15,000 Per Trip Load: 10 (Tons) No. of Trip: 41
Pesticides Expense per Season	Rs. 720,000
Cost of Irrigation (9 acres)	Rs. 337,500

Cost of Green manuring, Land Preparation, & Sowing (9 acres)	Rs. 540,000
Cost of Mechanical Hoeing (9 acres)	Rs. 45,000
Total packing expense per season for 9 acres	Rs. 424,333

12.3 Revenue Assumptions

Description	Details
Sales Price Growth Rate	10%
Production Capacity Utilization (1-10 Yr.)	100%
Days Operational / Year	180

Small and Medium Enterprises Development Authority

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