



Pre-feasibility Study

# COLD STORAGE

September 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

This information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data/information gathered from various reliable sources; however, it is based upon certain assumptions, which may differ from case to case. The information has been provided on, as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although, due care and diligence has been taken to compile this document, the contained information may vary due to any change in any of the concerned factors, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision, including taking professional advice from a qualified consultant/technical expert before taking any decision to act upon the information.

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### ***Document Control***

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## 2 EXECUTIVE SUMMARY

The storage of fruits and vegetables for preserving their edible characteristic and freshness for a longer period of time has become an integral part of fresh fruits and vegetables market supply chain systems. Therefore, setting up of cold store on commercial basis is quite lucrative business option for potential investors.

This particular pre-feasibility study provides the basic information for establishment of cold store unit on commercial basis. The proposed unit is a medium size compartmentalized cold storage facility for different types of fruits and vegetables, particularly for 'Potatoes', 'Apples' and 'Kinnoes'. The unit will render storage facility services to fruit and vegetable traders (both local and exporter) and growers on market rates. This business is proposed to be located in the vicinity of Okara, Kasur, Sahiwal, Sargodha and Multan in Punjab and in some parts of KPK and Baluchistan where fruits and vegetables are grown and commercially traded.

According to the estimates of this pre-feasibility, the proposed cold store will have a maximum capacity of storage of 100,000 bags of Potato or 300,000 crates of Apple / Kinno or others at any given time. The storage capacity utilization for different fruits and vegetables will be determined on seasonal basis. As the proposed facility is the compartmentalized, therefore multiple fruits and vegetables will be stored at the same time.

The proposed cold storage unit will consist of five compartmentalized cold rooms, with each room capable of holding 20,000 potato bags or 60,000 crates. Among these, four rooms will be allocated for potato storage, while one room will be dedicated to storing fruits. We assume an initial storage capacity utilization of 80%, equivalent to 64,000 potato bags and 48,000 apple crates. The maximum capacity utilization is expected to reach 100%. This level of capacity utilization is deemed economically viable and justifies both the capital and operational costs of the project. However, it is crucial to emphasize that the project's success relies heavily on strict adherence to best agronomic practices. Therefore, the technical knowledge and experience of the entrepreneur are absolutely essential.

The total project cost for setting up this unit is Rs. 380.47 million out of which Rs. 374.25 million is capital cost and Rs. 6.22 million as working capital. The project is financed through 100% equity, however, project economics based on 50% debt are also given in the document. The project NPV based on 100% equity is around Rs. 1.93 million, with an IRR of 20% and Payback Period of 5.00 years. The legal status of this project is proposed as 'Sole Proprietorship'.

### 3 INTRODUCTION TO SMEDA

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with 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 'sectoral 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 **Cold Storage (Fruits & Vegetables)** business 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**

All fruits and vegetables require specialized post-harvest treatment, appropriate temperature and relative humidity for their storage. Establishment of cold storage provides refrigerated storage and preservation facilities for different fruits, vegetables as well as flowers. Because of technology advancements and logistic strategies, the cold storage of perishable items has become an important stage in the distribution between manufacturers / processors and retail locations. The cold storage will ensure the increased availability and improved quality of high value perishable fruits and vegetables for both export and local sale, which would otherwise perish or deteriorate.

This project is primarily designed for the storage of potatoes, apples, kinnoes, and other fruits, but it can also be used to store multiple products in different compartments of the unit, where relative temperatures for respective products can be maintained. The primary clientele for this business will include local traders, export houses, and growers of fresh fruits and vegetables. Storage capacity utilization for different fruits and vegetables will primarily be determined on a seasonal basis. However, this facility also aims to cater to the off-season storage requirements of traders for fruits and vegetables. The unit will provide storage facility services to fruit and vegetable traders, both local and exporters, at market rates.

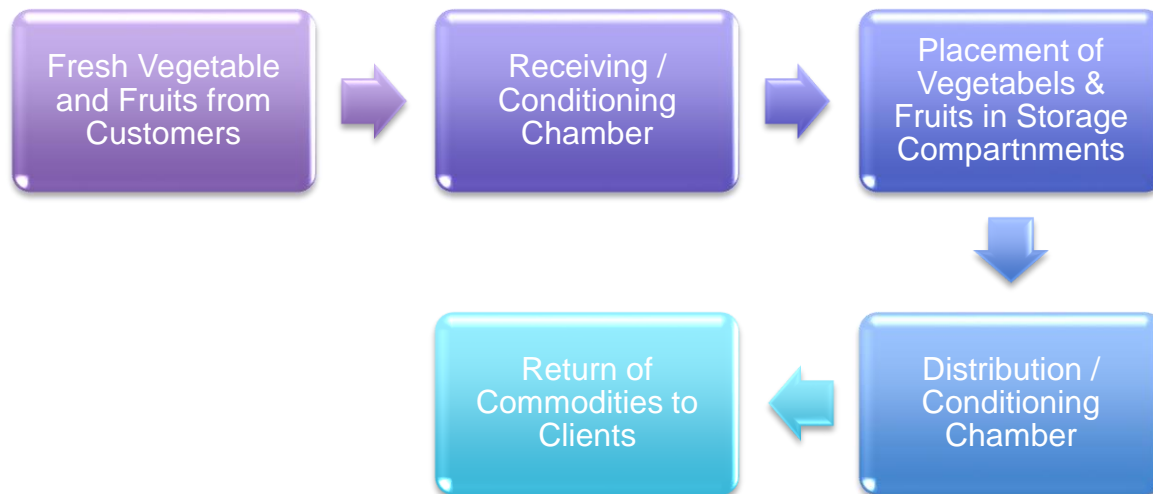
The cold storage prevents the spoilage of perishable commodities like Potato, Apple & Kinno, etc. and making them available off-season and in places where they are harvested. This also serves the dual purposes: the growers of the perishable produce don't need to sell out their produce in hurry at throwaway price and protect the nation from shortage of commodities due to spoilage of food during off season.

The proposed project contains racking system build up by using good quality steel and wooden logs. These racks provide space for placing different types of vegetables and fruits. Generally, potatoes / vegetables are stored in bags, whereas fruits are in crates.

## 5.1 Production Process Flow

The process flow of proposed cold storage facility will be as follow:

**Figure: Process Flow Diagram of Cold Store (Fruit & Vegetable)**



## 5.2 Installed And Operational Capacities

The proposed cold storage facility has a maximum storage capacity of 100,000 bags of vegetables (e.g., potatoes and others) or 300,000 crates of fruits (e.g., apples, kinno, and others) at any given time. However, for the purpose of revenue calculations in this study, we assume that 80,000 bags of potatoes (each weighing 120 kg) and 60,000 crates of fruits and vegetables will be stored.

The starting capacity utilization is assumed at 80% with 10% gradual increase in subsequent years up to maximum capacity utilization of 100%.

## 6 CRITICAL FACTORS

The most critical considerations / factors for the success of this project are as follows:

- ⇒ Effectively managing high electricity costs is crucial, as cold storage facilities require significant energy consumption. Implementing energy-saving technologies and practices can help mitigate operational expenses, which, in turn, may impact the pricing structure, including the rent of bags / crates. Balancing cost-efficiency with competitive pricing is essential to remain competitive in the market.
- ⇒ Complete adherence to best agronomic practices is critical to the success of this project; therefore, technical knowledge and experience of the

entrepreneur in the field of fresh vegetables and fruits are absolutely necessary.

- ⇒ The adaptation of better insulation technology, energy-efficient construction techniques, and appropriate compartmentalization of the facility are essential for efficient and cost-effective operations.
- ⇒ Implementing appropriate storage arrangements and internal control systems to ensure products are stored optimally and efficiently.
- ⇒ Careful selection of a good location and the purchase of land at a competitive price is crucial for accessibility, cost-effectiveness, and market reach.
- ⇒ The ability to generate work orders through networking, direct marketing, and negotiating long-term contracts with suppliers and customers is vital for maintaining a consistent flow of products.
- ⇒ Stringent supervision of the production process at every level to maintain product quality and safety throughout the storage period.
- ⇒ Knowledge about local environmental regulations and compliance requirements to ensure the facility operates within legal and environmental guidelines.

## **7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT**

Considering current agricultural practices and the abundant availability of fresh vegetables and fruits, the following areas are considered the most appropriate locations for the proposed unit: Okara, Depalpur, Kasur, Sargodha, Multan, Quetta, Mardan, Swat, and other potential regions where perishable products are produced and need to be stored.

## **8 POTENTIAL TARGET CUSTOMERS / MARKETS**

Potential target customers and market for the proposed project mainly comprised of the traders (both local and exporters) and growers of fresh vegetables and fruits.

## **9 PROJECT COST SUMMARY**

A detailed financial model has been developed to analyze the commercial viability of Cold Storage (Vegetables & Fruits) Unit. Various cost and revenue related assumptions along with results of the analysis are outlined in this section.

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



## 9.1 Project Economics

To evaluate the project's financial viability, a 100% equity-based business model has been assumed. The following tables present the Internal Rate of Return, Payback Period, Net Present Value, and Breakeven analysis for the proposed venture:

**Table 1: Project Economics (100% Equity based)**

Description	Details
Internal Rate of Return (IRR)	20%
Payback Period (Years)	5.00
Net Present Value @ 20% (Rs.)	1,930,912

Calculation of break-even analysis is as follows:

**Table 2: Breakeven (100% Equity Based)**

BREAKEVEN ANALYSIS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Break-Even Revenue	50,138,338	51,086,503	51,404,075	51,877,470	52,457,830	51,537,145	52,358,645	53,302,272	54,375,891	55,588,591
Break-Even (Units)	54,839	50,796	46,465	42,630	39,188	35,001	32,326	29,917	27,745	25,785
Margin of Safety	51%	60%	67%	70%	72%	75%	77%	79%	80%	82%

However, for the purposes of further explanation the Project Economics based on Debt:Equity (i.e. 50:50) Model has also been computed. On the basis of Debt:Equity model the Internal Rate of Return, Payback Period and Net Present Value of the proposed project are provide in the table below:

**Table 3: Project Economics Based on Debt (50%) : Equity (50%)**

Description	Details
Internal Rate of Return (IRR)	22%
Payback Period (Years)	4.55
Net Present Value @ 24% (Rs.)	(33,916,993)

The financial assumptions for Debt:Equity are as follows:

**Table 4: Financial Assumptions for Debt:Equity Model**

Description	Details
Debt	50%
Equity	50%

Interest Rate on Debt	28.16%
Debt Tenure	5 Years
Debt Payment / Year	12

The projected Income Statement, Cash Flow Statement and Balance Sheet enclosed as annexures are based on 100% Equity Based Business Model.

## 9.2 Project Cost

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

**Table 5: Project Cost**

Description	Amount (Rs.)
Land	10,000,000
Building/Infrastructure	154,180,700
Machinery & equipment	201,600,000
Furniture & fixtures	2,134,000
Office equipment	290,500
Pre-operating costs	6,047,500
<b>Total Capital Costs</b>	<b>374,252,700</b>
<b>Working Capital</b>	
Equipment spare part inventory	252,000
Cash	5,970,053
<b>Total Working Capital</b>	<b>6,222,053</b>
<b>Total Investment</b>	<b>380,474,753</b>

## 9.3 Space Requirement

Approximately 1 acres (8 kanals) of land would be required for the establishment of proposed unit. It is suggested to purchase land instead of getting on rent or lease as the project life is very high and Plant & Machinery used in the project is expensive. The required land should be closely located to agricultural fields or fruits and vegetable markets. The cost of land is estimated at a rate of Rs. 10.00 million per acre; hence total cost of required land is Rs. 10.00 million.

The infrastructural requirements of the project mainly comprises of the construction of Storage Areas, Management Office, Machine Room and other facilities. The cost of construction of building for the proposed unit is provided in the table below:

**Table 6: Building and Infrastructural Requirement**

Description	Area (Sq. Ft.)	Unit Cost / Sq. Ft (Rs.)	Total (Rs.)
Five Cold Storage Rooms (80*60*36)	24,000	5,000	120,000,000
Corridor	3,200	2,000	6,400,000
Machine room	2,000	3,500	7,000,000
Manager office	500	4,000	2,000,000
Labor rooms	300	1,800	540,000
Wash rooms for labors	200	2,500	500,000
Generator room	300	2,500	750,000
Overhead Water Tank			3,500,000
Parking sheds/Open area for heavy transports (tuff tile)	9,000	1,000	9,000,000
Design & Consultancy charges (%age of the civil works)		3.00%	4,490,700
<b>Total Infrastructure</b>			<b>154,180,700</b>

#### 9.4 Machinery & Equipment Requirement

Plant, machinery and equipment required for the proposed project are stated below:

**Table 7: Machinery & Equipment**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Complete Equipment, 1 lac potato bags (ammonia based)			100,000,000
Steel Racks	200	250,000	50,000,000
Wooden Ballas	100,000	300	30,000,000
Thermophore/insulation	94,000	150	14,100,000
Plaster & Mesh	40,000	100	4,000,000
Tube Well	1	1,000,000	1,000,000
Generator set (100 KVA)	1	2,500,000	2,500,000
<b>Total</b>			<b>201,600,000</b>

#### 9.5 Furniture & Fixtures Requirement

Details of the furniture and fixture required for the project are given below:

**Table 8: Furniture & Fixture**

Description	Quantity	Cost/ unit	Total Cost (Rs.)
Tables	3	35,000	105,000
Chairs for Staff	3	8,000	24,000
Chairs for Visitors	15	6,000	90,000
Sofa Set for Office	1	50,000	50,000
Energy Savers and Electrification Material	1,000	500	500,000
Electric Fittings and Installation	1	350,000	350,000
Security Cameras with DVR Recording and Installation	30	18,000	540,000
Sign Board for Outside	1	65,000	65,000
Ceiling Fans	8	7,500	60,000
Air Conditioners (1.5 ton window)	2	175,000	350,000
<b>Total Furniture and Fixture Cost</b>			<b>2,134,000</b>

## 9.6 Office Equipment Requirement

Following office equipment will be required for the proposed unit:

**Table 9: Office Equipment**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Computers	2	60,000	120,000
Printers	2	30,000	60,000
Telephone Sets	3	3,500	10,500
U.P.S for computers			100,000
<b>Total Office Equipment Cost</b>			<b>290,500</b>

## 9.7 Human Resource Requirement

In order to run operations of Cold Storage Unit smoothly, details of human resources required along with monthly salary are recommended as under:

**Table 10: Human Resource Requirement**

Description	No. of Employees	Monthly Salary per person (Rs.)
Cold Store manager	1	60,000
Shift in-charge	2	45,000
Plant operator	1	45,000
Accountant	1	45,000
Security Guards	2	35,000
Sweepers / Helper	1	35,000

### 9.8 Utilities and Other Costs

An essential cost to be covered by the project is the electricity cost. To run the cold storage operations, a three-phase commercial electricity connection and a 630 KVA transformer are required. The cost of the 630 KVA transformer, along with electricity connection charges, is included in the pre-operating costs of the project. In year 1, an estimated electricity bill of Rs. 2.2 million per month will be calculated based on current electricity prices. Additionally, promotional expenses, essential for marketing the storage facility, are estimated at 1% of the revenue.

### 9.9 Revenue Generation

Based on the 80% capacity utilization, sales revenue during the first year of operations is estimated as under:

**Table 11: Revenue Generation – Year 1**

Description	Storage Capacity @ 80%	Storage Rate per Bag or Crate / 6 or 7 months	Revenue Generated (Rs.)
Potato Bags	64,000	1,225	78,400,000
Apple Crates	48,000	500	24,000,000
<b>Total Revenue Generated</b>			<b>102,400,000</b>

## 10 CONTACT DETAILS

In order to facilitate potential investors, contact details of private sector Service Providers relevant to the proposed project are given as under:

### 10.1 Machinery Suppliers

Name of Supplier	Address	Contact Person
Pakistan Air Conditioning Engineering Co. (Pvt) Ltd.	Garden trust building, Naiper road, Lahore Factory: Bund road, Lahore <u>Tel: (042) 37226261-37358497</u>	M. Younas Qureshi (CEO)
Dastgir Engineering Company	12-A, Lahore road, near Jamia Manzoor ul Islamia, Saddar, Cantt, Lahore. Tel: 6665140, 6665202	Mr. Taqi Raza
Madina Engineering Company	Lahore Road, Near Okara Cantt, Okara. Tel: 0300-6963460	Mr. Aslam khan

### Major Suppliers of Ammonia Gas Compressor & Wooden Ballas

Name of Suppliers	Address of Supplier	Contact Person
Babar Air Conditioning Engineering Co. (Pvt) Ltd.	Main Multan road, Burewala Tel: (067) 3351918, 0300-6999849	M. Mirza Ashfaq (CEO)
Abdul woods company	Main bund road, Lahore <u>Tel:0300-4185299</u>	M. Gafoor (CEO)

## 11 USEFUL WEB LINKS

Small & Medium Enterprises Development Authority (SMEDA)	<a href="http://www.smeda.org.pk">www.smeda.org.pk</a>
Government of Pakistan	<a href="http://www.pakistan.gov.pk">www.pakistan.gov.pk</a>
Ministry of Industries & Production	<a href="http://www.moip.gov.pk">www.moip.gov.pk</a>
Government of Punjab	<a href="http://www.punjab.gov.pk">www.punjab.gov.pk</a>
Government of Sindh	<a href="http://www.sindh.gov.pk">www.sindh.gov.pk</a>
Government of Khyber Pakhtunkhwa	<a href="http://www.khyberpakhtunkhwa.gov.pk">www.khyberpakhtunkhwa.gov.pk</a>
Government of Balochistan	<a href="http://www.balochistan.gov.pk">www.balochistan.gov.pk</a>
Government of Gilgit Baltistan	<a href="http://www.gilgitbaltistan.gov.pk">www.gilgitbaltistan.gov.pk</a>

Government of Azad Jamu Kashmir	<a href="http://www.ajk.gov.pk">www.ajk.gov.pk</a>
Trade Development Authority of Pakistan (TDAP)	<a href="http://www.tdap.gov.pk">www.tdap.gov.pk</a>
Security Commission of Pakistan (SECP)	<a href="http://www.secp.gov.pk">www.secp.gov.pk</a>
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	<a href="http://www.fpcci.com.pk">www.fpcci.com.pk</a>
State Bank of Pakistan (SBP)	<a href="http://www.sbp.org.pk">www.sbp.org.pk</a>
Punjab Small Industries Corporation	<a href="http://www.psic.gop.pk">www.psic.gop.pk</a>
Sindh Small Industries Corporation	<a href="http://www.ssic.gos.pk">www.ssic.gos.pk</a>
Punjab Vocational Training Council (PVTc)	<a href="http://www.pvtc.gop.pk">www.pvtc.gop.pk</a>
Technical Education and Vocational Training Authority (TEVTA)	<a href="http://www.tevta.org">www.tevta.org</a>
Punjab Industrial Estates (PIE)	<a href="http://www.pie.com.pk">www.pie.com.pk</a>
Faisalabad Industrial Estate Development and Management Company (FIEDMC)	<a href="http://www.fiedmc.com.pk">www.fiedmc.com.pk</a>
Pakistan Industrial and Technical Assistance (PITAC)	<a href="http://www.pitac.gov.pk">www.pitac.gov.pk</a>
Cold Storages Chain in Agriculture	<a href="http://www.agribuisness.org.pk">www.agribuisness.org.pk</a>
List of Retail Companies in Pakistan	<a href="http://www.companylist.org">www.companylist.org</a>
Aziz Group of Cold Storages	<a href="http://www.zizgrp.com">www.zizgrp.com</a>

## 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	102,400,000	126,720,000	154,880,000	170,368,000	187,404,800	206,145,280	226,759,808	249,435,789	274,379,368	301,817,304
<i>Cost of sales</i>										
Loading / Unloading Wages	1,984,000	2,343,600	2,734,200	2,870,910	3,014,456	3,165,178	3,323,437	3,489,609	3,664,090	3,847,294
Direct Labor	2,340,000	2,574,000	2,831,400	3,114,540	3,425,994	3,768,593	4,145,453	4,559,998	5,015,998	5,517,598
Machinery Maintenance	1,008,000	1,058,400	1,111,320	1,166,886	1,225,230	1,286,492	1,350,816	1,418,357	1,489,275	1,563,739
Direct Electricity Including Generator Expense	26,584,320	32,150,412	38,401,881	41,282,022	44,378,174	47,706,537	51,284,527	55,130,867	59,265,682	63,710,608
Amonia Gas Cost		577,500	606,375	636,694	668,528	701,955	737,053	773,905	812,600	853,231
Total cost of sales	31,916,320	38,703,912	45,685,176	49,071,052	52,712,382	56,628,755	60,841,286	65,372,736	70,247,644	75,492,469
Gross Profit	70,483,680	88,016,088	109,194,824	121,296,948	134,692,418	149,516,525	165,918,522	184,063,053	204,131,723	226,324,836
<i>General administration &amp; selling expenses</i>										
Administration expense	1,800,000	1,980,000	2,178,000	2,395,800	2,635,380	2,898,918	3,188,810	3,507,691	3,858,460	4,244,306
Administration benefits expense	180,000	198,000	217,800	239,580	263,538	289,892	318,881	350,769	385,846	424,431
Water expense	120,000	132,000	145,200	159,720	175,692	193,261	212,587	233,846	257,231	282,954
Travelling expense	300,000	330,000	363,000	399,300	439,230	483,153	531,468	584,615	643,077	707,384
Communications expense (phone, fax, mail, internet, etc.)	180,000	198,000	217,800	239,580	263,538	289,892	318,881	350,769	385,846	424,431
Office expenses (stationary, entertainment, janitorial services, etc.)	300,000	330,000	363,000	399,300	439,230	483,153	531,468	584,615	643,077	707,384
Promotional expense	1,024,000	921,600	829,440	746,496	671,846	604,662	544,196	489,776	440,798	396,719
Professional fees (legal, audit, consultants, etc.)	100,000	110,000	121,000	133,100	146,410	161,051	177,156	194,872	214,359	235,795
Depreciation expense	28,111,485	28,111,485	28,111,485	28,111,485	28,111,485	28,111,485	28,111,485	28,111,485	28,111,485	28,111,485
Amortization of pre-operating costs	1,209,500	1,209,500	1,209,500	1,209,500	1,209,500	-	-	-	-	-
Subtotal	33,324,985	33,520,585	33,756,225	34,033,861	34,355,849	33,515,467	33,934,932	34,408,438	34,940,178	35,534,888
Operating Income	37,158,695	54,495,503	75,438,599	87,263,087	100,336,569	116,001,058	131,983,590	149,654,615	169,191,545	190,789,948
Earnings Before Interest & Taxes	37,158,695	54,495,503	75,438,599	87,263,087	100,336,569	116,001,058	131,983,590	149,654,615	169,191,545	190,789,948
Earnings Before Tax	37,158,695	54,495,503	75,438,599	87,263,087	100,336,569	116,001,058	131,983,590	149,654,615	169,191,545	190,789,948
Tax	12,370,543	18,438,425	25,768,509	29,907,080	34,482,798	39,965,370	45,559,256	51,744,114	58,582,040	66,141,481
<b>NET PROFIT/(LOSS) AFTER TAX</b>	<b>24,788,152</b>	<b>36,057,078</b>	<b>49,670,090</b>	<b>57,356,007</b>	<b>65,853,770</b>	<b>76,035,689</b>	<b>86,424,334</b>	<b>97,910,500</b>	<b>110,609,505</b>	<b>124,648,467</b>



## 12.2 Balance Sheet

Calculations											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Assets</b>											
<i>Current assets</i>											
Cash & Bank	5,970,053	60,322,114	125,707,738	204,706,451	291,367,477	386,523,800	490,649,781	605,161,320	731,155,577	869,844,987	1,023,182,739
Equipment spare part inventory	252,000	277,830	306,308	337,704	372,319	410,481	452,556	498,943	550,084	606,468	-
<b>Total Current Assets</b>	<b>6,222,053</b>	<b>60,599,944</b>	<b>126,014,046</b>	<b>205,044,155</b>	<b>291,739,796</b>	<b>386,934,282</b>	<b>491,102,337</b>	<b>605,660,263</b>	<b>731,705,661</b>	<b>870,451,455</b>	<b>1,023,182,739</b>
<i>Fixed assets</i>											
Building/Infrastructure	154,180,700	146,471,665	138,762,630	131,053,595	123,344,560	115,635,525	107,926,490	100,217,455	92,508,420	84,799,385	77,090,350
Machinery & equipment	201,600,000	181,440,000	161,280,000	141,120,000	120,960,000	100,800,000	80,640,000	60,480,000	40,320,000	20,160,000	-
Furniture & fixtures	2,134,000	1,920,600	1,707,200	1,493,800	1,280,400	1,067,000	853,600	640,200	426,800	213,400	-
Office equipment	290,500	261,450	232,400	203,350	174,300	145,250	116,200	87,150	58,100	29,050	-
<b>Total Fixed Assets</b>	<b>368,205,200</b>	<b>340,093,715</b>	<b>311,982,230</b>	<b>283,870,745</b>	<b>255,759,260</b>	<b>227,647,775</b>	<b>199,536,290</b>	<b>171,424,805</b>	<b>143,313,320</b>	<b>115,201,835</b>	<b>87,090,350</b>
<i>Intangible assets</i>											
Pre-operation costs	6,047,500	4,838,000	3,628,500	2,419,000	1,209,500	-	-	-	-	-	-
<b>Total Intangible Assets</b>	<b>6,047,500</b>	<b>4,838,000</b>	<b>3,628,500</b>	<b>2,419,000</b>	<b>1,209,500</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL ASSETS</b>	<b>380,474,753</b>	<b>405,531,659</b>	<b>441,624,776</b>	<b>491,333,900</b>	<b>548,708,556</b>	<b>614,582,057</b>	<b>690,638,627</b>	<b>777,085,068</b>	<b>875,018,981</b>	<b>985,653,290</b>	<b>1,110,273,089</b>
<b>Liabilities &amp; Shareholders' Equity</b>											
<i>Current liabilities</i>											
Accounts payable		268,753	304,792	343,827	362,475	382,206	403,087	425,194	448,607	473,411	444,742
<b>Total Current Liabilities</b>	<b>-</b>	<b>268,753</b>	<b>304,792</b>	<b>343,827</b>	<b>362,475</b>	<b>382,206</b>	<b>403,087</b>	<b>425,194</b>	<b>448,607</b>	<b>473,411</b>	<b>444,742</b>
<i>Other liabilities</i>											
<b>Total Long Term Liabilities</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<i>Shareholders' equity</i>											
Paid-up capital	380,474,753	380,474,753	380,474,753	380,474,753	380,474,753	380,474,753	380,474,753	380,474,753	380,474,753	380,474,753	380,474,753
Retained earnings		24,788,152	60,845,230	110,515,320	167,871,328	233,725,098	309,760,786	396,185,120	494,095,621	604,705,126	729,353,593
<b>Total Equity</b>	<b>380,474,753</b>	<b>405,262,906</b>	<b>441,319,983</b>	<b>490,990,073</b>	<b>548,346,081</b>	<b>614,199,851</b>	<b>690,235,540</b>	<b>776,659,874</b>	<b>874,570,374</b>	<b>985,179,879</b>	<b>1,109,828,346</b>
<b>TOTAL CAPITAL AND LIABILITIES</b>	<b>380,474,753</b>	<b>405,531,659</b>	<b>441,624,776</b>	<b>491,333,900</b>	<b>548,708,556</b>	<b>614,582,057</b>	<b>690,638,627</b>	<b>777,085,068</b>	<b>875,018,981</b>	<b>985,653,290</b>	<b>1,110,273,089</b>

## 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		24,788,152	36,057,078	49,670,090	57,356,007	65,853,770	76,035,689	86,424,334	97,910,500	110,609,505	124,648,467
Add: depreciation expense		28,111,485	28,111,485	28,111,485	28,111,485	28,111,485	28,111,485	28,111,485	28,111,485	28,111,485	28,111,485
amortization of pre-operating costs		1,209,500	1,209,500	1,209,500	1,209,500	1,209,500	-	-	-	-	-
Equipment inventory	(252,000)	(25,830)	(28,478)	(31,397)	(34,615)	(38,163)	(42,074)	(46,387)	(51,142)	(56,384)	606,468
Accounts payable		268,753	36,039	39,034	18,649	19,730	20,882	22,107	23,413	24,804	(28,668)
Cash provided by operations	(252,000)	54,352,061	65,385,624	78,998,713	86,661,026	95,156,323	104,125,981	114,511,539	125,994,256	138,689,410	153,337,752
<i>Financing activities</i>											
Issuance of shares	380,474,753	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares											
Cash provided by / (used for) financing activities	380,474,753	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(374,252,700)	-	-	-	-	-	-	-	-	-	-
Acquisitions											
Cash (used for) / provided by investing activities	(374,252,700)	-	-	-	-	-	-	-	-	-	-
<b>NET CASH</b>	<b>5,970,053</b>	<b>54,352,061</b>	<b>65,385,624</b>	<b>78,998,713</b>	<b>86,661,026</b>	<b>95,156,323</b>	<b>104,125,981</b>	<b>114,511,539</b>	<b>125,994,256</b>	<b>138,689,410</b>	<b>153,337,752</b>

## 13 KEY ASSUMPTIONS

### 13.1 Operating Cost Assumptions

Description	Details
Office Expenses (Stationery, Entertainment, Janitorial, etc)	Rs. 25,000 per month
Machinery & Equipment Maintenance	0.5% of Machinery Cost
Promotional Expenses	1% of Revenue
Professional Fee	Rs. 100,000 per Annum
Depreciation Method	Straight Line
Depreciation Rate	
Building & Infrastructure	5%
Machinery & Equipment's	10%
Furniture & Fixtures	10%
Electricity Price Growth Rate	10%
Salaries Growth Rate	10%

### 13.2 Production Cost Assumptions

Description	Details
Loading / Unloading Charges per Potato Bag	Rs. 25
Loading / Unloading Charges per Apple Crate	Rs. 8
Ammonia Gas Cost per Annum	Rs. 550,000
Electricity Cost Growth Rate per Annum	10%

### 13.3 Revenue Assumptions

Description	Details
Days Operational / Year for Plant	210 (7 months)
Per Day Production Capacity	24 Tons (3 Tons per Hour)
Total Storage Capacity of Potato Bags	80,000
Total Storage Capacity of Apple / Kinno Crates	60,000
Capacity Utilization during 1 <sup>st</sup> Year	80%
Maximum Operational Capacity	100%
Potato Bag Rent per Bag per Season	Rs. 1,225
Apple / Kinno Crate Rent per Season	Rs. 500
Sales Price Growth Rate	10%

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