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USAID FIRMS PROJECT
Pre-feasibility Study Report
Fruit Processing Facility

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Pre-feasibility Study Report

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Data Page

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Abstract:

The USAID Pakistan Firms project aims to assist the Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) in promoting investment and trade in the province. In an effort to achieve this aim preliminary feasibility studies have been conducted in order to highlight the investment opportunities available for international and domestic investors. The focus of these preliminary feasibility studies has been kept on the high economic growth sectors in KPK.

This report is a part of series of pre-feasibility studies conducted for identified projects. The information used for the preparation of this report has been gathered from various reliable sources including economic and statistical surveys carried out by the government of Pakistan. Competitor's data and industry averages have been used as a basis for the preparation of preliminary financial projections.

This report provides a financial and economic analysis of the opportunities available in the sector and identifies the potential technical strengths and constraints that may be encountered by the investor(s) in undertaking the identified project. It aims to help the reader develop an understanding of the operational aspects of the sector and its growth potential in the country particularly in the Khyber Pakhtunkhwa province. An outline for a business plan has been prepared for the identified project which identifies the operational requirements (equipment, human resource, infrastructure etc.). The analysis is supported by preliminary financial projections for the first ten years of the business.

Acronyms

GDP	Gross Domestic Product
HR	Human Resource
IT	Information Technology
IRR	Internal Rate of return
KIBOR	Karachi Inter Bank Offer Rate
KPK	Khyber PakhtunKhwa
KPBOIT	Khyber Pakhtunkhwa Board of Investment and Trade
NGO	Non-Governmental Organization
NPV	Net present Value
PKR	Pakistani Rupee
ROI	Return on Investment
US or USA	United States of America
USAID	United States Agency for International Development
USD	United States Dollar

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Disclaimer

The financial projections used in this study should be viewed as approximations and the provincial government of Khyber Pakhtunkhwa, Khyber Pakhtunkhwa Board of Investment and Trade (BOIT) and/or their consultants will have no liability, whatsoever, in relation to financial projections included in this study. These projections assume that the project will be professionally marketed, managed and maintained under international standards. The investors may undertake their own study prior to making investment decision.

Executive Summary

Chemonics International is implementing the USAID Pakistan Firms Project that works to develop a dynamic internationally competitive business sector to accelerate sales, increase exports, investment, job growth and produce higher value added products and services. Within the business enabling component, the project has initiated an assistance program for the Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) to help it meet its mandate promoting investment and trade in the province. The KPBOIT was created with a mandate to advocate specific investment friendly reforms and advise the KP government regarding the provision of adequate infrastructure facilities for making the KP Province business environment more conducive to international investment.

The USAID Pakistan Firms project has selected KPMG Taseer Hadi & Co as the subcontractor to work closely with KP-BoIT to improve its institutional and working capacity.

Results of financial pre-feasibility

The Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) is considering development of a multipurpose fruit processing facility in the province. The project will be housed on a total land area of five acres and will comprise of fresh fruit processing, fruit pulping and dehydrated fruit processing facilities.

Subject to approval from the provincial government, land will be offered for the project to investors through competitive bidding process. However, at this stage, the feasibility is based on the assumption that the investors will acquire land on their own. Identification of land and obtaining requisite approvals from the provincial government for construction of the proposed will be the responsibility of the investor. KPBOIT will facilitate the investor in obtaining requisite approvals for the project.

This pre-feasibility has been based on a series of assumptions with respect to design, size, costs, revenues, returns etc. However, these are indicative only and the investors might require to carry out their own feasibility studies.

The results of this financial pre-feasibility indicate that development of a fruit processing facility comprising of a fresh fruit processing facility, dehydration facility and a pulping facility on a total land area of five acres, will be a profitable financial investment.

The results of this financial pre-feasibility indicate that the project is capable of generating following results:

**Equity IRR of 24.4% and
Project IRR of 19.96%**

Following are the key assumptions/considerations for the investors which were used in this pre-feasibility and which form basis of projected returns from the project:

- **Total project outlay is estimated at PKR 326 million**, financed through 40% equity and 60% debt. **Total equity contribution will be required at around PKR 130 million.**
- The cost of equity has been assumed at 15%, whereas, cost of debt is estimated at KIBOR + 3% (13.5% total).
- Cost estimates are based on competitor analysis and industry averages.

1 Project Background and Rationale

1.1 Introduction

The horticulture sector contributes about 12% to the national agricultural GDP of Pakistan and holds great potential for increasing export of premium quality horticultural produce, and offering multiple employment opportunities throughout the supply chain, particularly in rural areas. Investment in the modern post-harvest management facilities (grading, packing, storage and transport/cool-chain) will reduce post-harvest losses, increased production surplus along with improving shelf life and quality of fresh produce, which will help meet the demand in domestic markets, as well as to substantially boost exports to highly lucrative and competitive international markets.

The Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) has conceived an idea to develop a fruit processing facility in KPK. This study has been prepared to determine the financial feasibility of building and operating a fruit processing facility.

1.2 Introduction to KPBOIT

Khyber PakhtunKhwa Board of Investment and Trade (KPBOIT) is established for the promotion of trade and investment activities in Khyber PakhtunKhwa (KPK). Government of Khyber PakhtunKhwa is committed to bring economic prosperity in the Province through industrial and trade development and delegated this role to KP-BOIT.

KP-BOIT has accepted this challenging task towards achievement of its mission under the leadership of a dynamic Board Members comprising of eminent people of public and private sectors.

High motivation and commitment is there to achieve the vision to flourish the investment and trade in Khyber PakhtunKhwa making it most favorite investment destination for investors.

Our land is blessed with abundance of natural resources of Oil & Gas, Hydel Power Generation, Tourist Destinations, Mines and Minerals along with Agriculture. The Province is located at an outstanding geographical location.

KPBOIT is striving for exploiting the tremendous potential of the Province into reality and is focused on meeting its important objective of facilitating local and foreign investors desirous of benefiting from this huge potential of the KPK. Our aim is creating an attractive business environment through proactive policy advocacy both at the Provincial and Federal level. Another

important role of awareness among investors is to the tremendous opportunities available for investment in KPK and therefore facilitating them for undertaking such investment as a joint venture partners.

We also act as a focal point of contact for both foreign and domestic investors providing information and assistance in coordination with other Government Departments and Agencies.

KPBOIT's objectives are:

- To flourish and revive the investment climate of Khyber Pakhtunkhwa and to make it a lucrative investment friendly destination.
- To provide one window operation facility to investors by proactively engaging with all stakeholders to ensure successful investments.
- To act as a bridge between investors and all related government and semi Government Departments/Organizations.
- Advise the Provincial Government to create environment for investment through advocacy of specific investment friendly and comprehensive Public Private Partnership policies.

1.3 Overview of Horticulture Sector in the province

The Khyber Pakhtunkhwa province is blessed with five Agro-climatic zones, which gives it an edge over the rest of the country. The land is extremely fertile producing different crops, fruits and vegetables. Variety of crops including wheat, maize, rice, sugarcane, gram and barley are produced in the province. Districts including Charsadda, Mardan and Swabi are producing quality sugarcane. High quality tobacco is also produced in the province with around three fourth of the total production in the country.

The abundantly available variety of fruits and vegetables offers the opportunity to both local and foreign investors to establish industrial units for production of natural fruit juices and other fruit and vegetable based products or confectionary, such as Jams, Jellies, Pickles and Squashes manufacturing units. The conception of preserving fruits and vegetables in cans and bottles by preservation and dehydration is another lucrative investment opportunity to meet both local and international demand.

Government of Khyber Pakhtunkhwa is focused to exploit the potential in the Agriculture sector and take steps to promote the production and export potential of fruits and vegetables, along with major and minor crops of the Province. For many years, horticulture has been the leading sector for the economy of KPK.

Pakistan produces some of the world's best fruit varieties that are exported to over 40 countries.

Table 1: Exports of Major Fruits

Commodity	2011-12		2010-11	
	Quantity	Value	Quantity	Value
APPLE (FRESH)	1,448,951	48,862	1,328,972	47,914
APPLES (DRIED)	7,042	1,771	-	-
PEARS AND QUINCES,(FRESH)	1,748,835	60,190	137,124	4,779
PEACHES(ARROO)	15,122	1,095	235	110
APRICORTS;FRESH(KHUBANI)	155,088	18,394	158,102	23,296
APRICOTS DRIED	326,125	78,470	644,217	158,715
PEACHES,(AAROO) FRESH	786,776	36,161	671,160	26,887
PLUMS AND SLOES	41,798	11,872	35,072	6,199
Total Exports	4,529,737	256,815	2,974,882	267,900

Source: Pakistan Bureau of Statistics

Khyber Pakhtunkhwa Province is gifted with a natural ecology and land fit to grow a variety of quality crops, fruits and vegetables. About 30 varieties of Kharif and Rabi fruits are produced in KPK and orchards spread over 74,130 Acres.

Table 2: Production of Fruits in Pakistan – in tonnes

YEAR	PUNJAB	SINDH	KPK	BALUCHISTAN	TOTAL PAKISTAN
2007-08	400,905	150,098	120,425	255,177	852,630
2008-09	400,140	154,865	47,409	254,695	856,937
2009-10	395,933	157,829	47,026	251,734	857,093
2010-11	390,029	154,661	43,282	248,026	800,964
2011-12	387,612	142,373	43,108	249,406	829,616

source: Pakistan Bureau of Statistics

Table 3: Fruit Area & Production over Five Years in Pakistan (2007-2012)

Year	Area (Hectares) & Production (Tonnes)	Apple	Apricot	Peach	Pear	Plum
2007-08	Area(Hectares)	113,043	31,256	15,624	2,105	7,602
	Production (Tonnes)	441,575	240,192	82,392	24,152	73,053
2008-09	Area(Hectares)	113,029	31,018	15,774	2,130	7,160
	Production (Tonnes)	441,062	237,937	83,670	24,376	66,881
2009-10	Area(Hectares)	111,597	30,206	15,349	3,130	6,960
	Production (Tonnes)	366,360	193,936	53,994	20,225	57,470
2010-11	Area(Hectares)	110,562	29,648	15,096	1,955	6,770
	Production (Tonnes)	525,855	190,174	52,579	19,291	56,232
2011-12	Area(Hectares)	110,411	29,634	15,409	1,942	6,781
	Production (Tonnes)	598,804	189,420	54,378	19,071	56,223

source: Pakistan Bureau of Statistics

1.4 Ha

Invest Season

The following table details the harvest seasons for various fruits grown in the region:

Table 4: Harvest Seasons

Name of Fruit	Harvest Season
Grapes	August – November
Apple	July – November
Mango	May – August
Citrus	November – February
Peach	May - September
Apricot	May - August
Cherry	May - July
Plum	May - June
Lychee	July - August

1.5 Location

The Swat district is particularly suitable for fruit cultivation. This sector has faced a strong growth in the recent years and large areas of land have been converted to orchards. Grafting wild varieties with improved cultivars have led to a considerable increase in production.

This area is characterized by different agro meteorological conditions and therefore is suitable for the cultivation of several types of crops. Many varieties of fruit trees are cultivated in the area, such as apple, walnut, citrus, apricot, pear, peach, cherry, plum.

1.6 Conclusion

The results of pre-feasibility study indicate that there is considerable potential for investment in the fruit processing project in the Swat valley. The project can benefit from abundant supply of high quality fruits in the valley and limited existing fruit processing facilities.

1.7 KPBOIT Assistance

In accordance with the objectives of the KPBOIT, it will serve as one window facilitation center for the investors with respect to the proposed project. KPBOIT will assist the investors, in relation to the proposed project, through:

- Obtaining requisite approvals from the provincial government;
- Provision of land for the project on lease basis;
- Provision of pre-feasibility study for the project; and
- Assistance in arranging utilities etc.

2 Project design and processes

The project is aimed at developing fresh fruit processing, fruit pulp preparation and fruit dehydration. Rationale and processes of each of the facility are explained below:

2.1 Fresh Fruit Facility

Fruit consumers are getting hygiene conscious day by day throughout the country and abroad and try to purchase properly processed and packed fruits from well-established stores. The target customers for the fresh fruit processing unit are domestic and international fruit wholesalers and retailers. However, the investors may establish their own fruit shops in different areas depending upon the market demand.

Fresh fruit processing process is explained below:

Washing and Sterilization

Fruits are washed and disinfected with the introduction of chlorine and other chemical disinfectant.

Sorting

The sorting of Fruits are carried out according to predetermined parameter as per demand led strategy.

Defect Identification

The defected fruits including culls are identified and are removed from the processing line.

Waxing

The fruits are waxed to protect the fruit humidity.

Additional protective coating

An extra precautionary protective and decorative value added measure as per the demand of the consumer market.

Drying

After waxing fruits are dried through drying tunnel in a very precise manner.

Grading

- Color grading
- Size grading
- Weight grading
- Shape grading

Packing

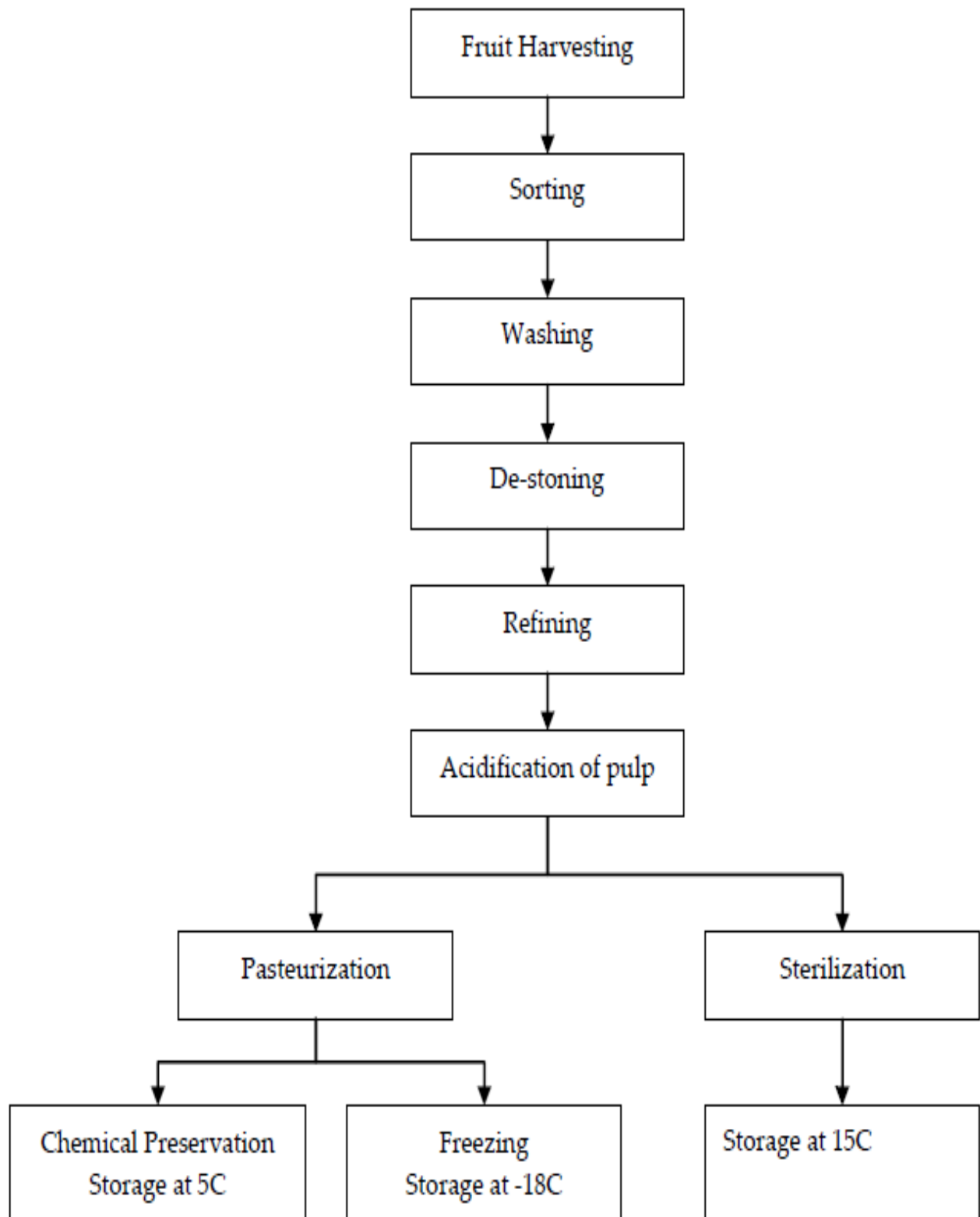
The packing of fruits are carried out as per requirement. Mostly fruits are packed in 5Kg and 10Kg (corrugated carton packs) for each variety of the graded fruit.

2.2 Fruit Pulp Production

Fruit pulp is an important value added product and has a high demand in both local and export markets. The local market of fruit juices, nectars and drinks has been growing at a very high rate. Consequently, the demand for fruit pulps has also increased during this period. The product will be sold in local and export markets. The proposed facility will contribute towards reducing the postharvest losses, increasing employment opportunities in the area and maximizing crop value for the farmers.

Fruit pulp is the raw material for making ready-to-drinks and juices. Local market for fruit drinks and juices has grown at very high rates during the past years. The diagram on the ensuing page provides summary of fruit pulp production process.

Chart 1: Fruit Pulp Production Process



2.3 Dehydrated Products

Dehydration is a process by which shelf life of the fruits can be extended by evaporating water while preserving the taste. Dehydration reduces the weight and spaces required to store and transport the products and remain stable in ordinary storage conditions. This leads to export avenues in international market especially to UAE, Saudi Arabia, Central Asian Republics where these products are already well known and fetch high price.

Dehydrated products can be used during off season and the fresh produce of far off places can be saved from decomposition due to severe weather conditions and inefficient transport facilities. Through the introduction of these new technologies, the income of people living in remote areas can be increased by using their produces, paying higher prices and providing them with employment opportunities in food industry

Dehydration is an energy intensive process. Fruits can be converted into value added products by using the solar energy options and exploiting the remote area labor force. Dehydrated products have potential market nationally and internationally. Fruits can be dehydrated through different methods e.g. kiln drier, solar drying, sun drying etc. A larger scale draught tunnel is used for commercial production containing long chamber constructed by special bricks through which the trays of vegetables move on trolleys.

In order to preserve original taste & quality, following process is deployed:

1. Pretreatment of fresh fruits for operation before dehydration.
2. Sorting and blemished/damaged pieces are removed.
3. Sorted fruits are washed and peeled and subsequently peeled fruits are washed and sliced mechanically.
4. Sliced fruits are spread on trays in single layer and loaded on trolleys.
5. Each trolley contains 50Kg (approx) of pre-treated material to be processed through the balance machine.
6. Twin-Tunnel dehydrator cycles these trolleys on a regular interval.
7. Humidity and temperature is controlled by deploying counter-current or concurrent arrangement of hot air flow in tunnels eliminating moisture from the material.
8. This partially dried material still contains 15% to 20% residual moisture which is then arranged in the finishing bin for reducing moisture to 4% to 5%.
9. At finishing stage final product is packed in polythene bags and stored in temperature controlled containers.

3 Financial Pre-feasibility

3.1 Project design assumptions

The project aims at the development of a fruit processing facility in the Swat valley. Based on the high quality produce available in the valley, the project is aimed at processing the following fruits:

- Apples
- Pears
- Peaches
- Apricots
- Plums

The facility will be constructed over a land area of five acres valued at PKR 1.5 million per acre. The facility will be further divided into three sections each responsible for the production of a different fruit based product:

- Fresh fruit processing facility
- Fruit pulping facility
- Fruit dehydration facility

The area required for development of buildings and related infrastructure for these sections is detailed in the following table:

Table 5: Buildings and Infrastructure

Area of Building and Infrastructure in Sq Ft	
Fresh fruits processing facility	12,000
Fruit pulping facility	15,000
Dehydration facility	8,000
Management building/ services	10,000
Stores including clod storage	15,000

3.2 Project set up costs

The total project outlay has been estimated at PKR 300.99 million. In addition to these set up costs, working capital injection of around PKR 25 million will be required initially.

Please refer table below for detailed breakdown of project set up costs.

Table 6: Project Capital Cost

Project Capital Cost (PKR)	
Land 5 acres @ PKR 1.5 million per acre	7,500,000
Building and related infrastructure	
Fresh fruits processing facility	14,400,000
Fruit pulping facility - 15,000 SFT	18,000,000
Dehydration facility - 8,000 SFT	9,600,000
Management building/ services - 10,000 SFT	12,000,000
Stores including clod storage - 15,000 SFT	18,000,000
Machinery and equipment	
Fresh fruits processing facility	24,426,800
Fruit pulping facility	114,954,000
Dehydration facility	18,200,000
Genset, chiller and other accessories/ equip	26,500,000
Furniture, fixtures, office equipment & MIS	5,000,000
Vehicles	6,000,000
Interest during construction	26,404,837
Total Capital Cost	300,985,637

The fruit processing facility will comprise of 3 facilities producing separate products. The following tables provide details of the building and infrastructure requirements for the 3 facilities.

Table 7: Fresh Fruits Processing

Fresh fruits grading, waxing and processing (PKR)	
Roller Feed Conveyer	6,624,000
Roller Sorting Conveyer	4,416,000
Roller Brush Washer	1,104,000
Roller Foam Dryer	800,400
Hot Air Dryer	1,800,000
Roller Sorter	1,214,400
Roller Waxing System	2,600,000
Hot Air Dryer (II)	1,800,000
Sizer/Grader	1,368,000
Main Sorted Fruit Conveyers	1,200,000
Packing Conveyers and Trays	1,500,000
	24,426,800

Table 8: Fruit Pulping Facility

Fruit pulping facility (PKR)	
Fruit de-stoning machine	6,072,000
Chopping machine/hammer mill	8,280,000
Thermo break	6,624,000
Two stage refiner	20,976,000
Monix pumps	7,176,000
Sterilizer/Pasteurizer	10,488,000
Conveyor / elevators	6,900,000
Aseptic filling system	16,560,000
Stainless steel tanks	8,832,000
SS screw conveyer for waste removal	12,696,000
Brushing machine	10,350,000
	114,954,000

Table 9: Dehydration Equipment

Dehydration equipment (PKR)	
Peeling, chopping and slicing equipment	800,000
Dicing Machine	750,000
Blanching / Sulphiting Tank	500,000
Steam Blancher, Trolley Load	1,200,000
Twin Tunnel Dehydrator	2,800,000
Trolley-Dehydrator	1,750,000
Finishing chambers & bins	900,000
Grinding Mill	2,000,000
Threshing Machine	600,000
Storage Vessels	800,000
Steam Jacketed Kettles	1,600,000
Boiler	500,000
Laboratory Equipments	1,000,000
Storage Conveyors	800,000
Rotto Sealer Machine & Poly Sealer-Paddle	2,200,000
	18,200,000

3.3 Operating revenues

Revenue will be generated from the sale of three types of products:

- Fresh fruit
- Fruit pulp
- Dehydrated fruit

The production composition for the fruit shall be as follows:

Table 10: Product Mix

Product mix	
Apple	35%
Peach	25%
Pear	10%
Appricot	15%
Plum	15%

A capacity utilization rate of 60% has been assumed for the first year of operation keeping in view the duration of establishment of the plant. This rate is expected to increase to 70% in Year 2. An 80% utilization rate is predicted for the year 3 onwards.

Revenues have been estimated on the basis of capacity utilization rates, selling prices, and inflation rates. Selling price estimates have been made with regard to the prevailing market prices for the products.

Total revenue of PKR 824.8 million is estimated for the first year of operation. This figure is expected to rise to PKR 2.47 billion by the year 10.

Fresh Fruit Processing Facility

The facility is expected to have a production capacity of 10 tons per day and will be operational for 180 working days a year. It is expected that 10% of the fruit will be wasted during production.

The following table provides the selling prices charged during the first year:

Table 11: Selling Price

Selling prices - PKR/ KG	
Apple	116
Peach	116
Pear	87
Appricot	109
Plum	138

These prices are expected to escalate at 8% per year.

Total revenue of PKR 112 million is estimated for the first year of operation. This figure is expected to rise to PKR 335.9 million by the year 10.

Fruit Pulping Facility

The facility is expected to have a production capacity of 20 tons per day and will be operational for 180 working days a year. The pulp yield for each item of fruit has been estimated at 62.5% based on technological data.

The product will have an average selling price of PKR 180,000/ton. This price is expected to escalate at a rate of 8% per year.

Total revenue of PKR 388.8 million is estimated for the first year of operation. This figure is expected to rise to PKR 1.16 billion by the year 10.

Dehydrating Facility

The facility is expected to have an annual plant capacity of 1000 tonnes. The dehydration ratio for each item of fruit has been estimated at 17.5% based on technological data.

The product will have an average selling price of PKR 540/kg. This price is expected to escalate at a rate of 8% per year.

Total revenue of PKR 324 million is estimated for the first year of operation. This figure is expected to rise to PKR 971.5 million by the year 10.

3.4 Operating costs

Fruit Purchase Cost

The following table details the cost of each type of fruit in Year 1:

Table 12:Purchase Price

Base purchase price - PKR/ KG	
Apple	80
Peach	80
Pear	60
Appricot	75
Plum	95

These costs are expected to increase by 8% per year.

Human Resource:

The following table detail the number of staff required for the operation of each section of the facility along with their annual salary:

Table 13: Human Resource Requirements

	Dehydration Facility	Fresh Fruits Processing	Fruit Pulping Facility
Number of Staff			
Manager and supervisors	4	4	8
Skilled and semi-skilled Labor	20	20	36
Annual Salary (PKR)			
Manager and supervisors	2,400,000	2,400,000	4,800,000
Skilled and semi-skilled Labor	4,320,000	4,320,000	7,776,000

HR costs of PKR 26 million have been estimated for the first year of operation. This figure is expected to rise at a rate of 8% per year to PKR 52 million by the year 10.

The following categories of employees will be required:

- Manager
- Supervisor
- Food Technologist
- Processing Plant Operator
- Helper
- Machine Mechanic
- Packers
- Accounts Administrator
- Store Clerk
- Driver
- Security Guards
- Peon

Trainings will be provided to workers when needed with regard to the proper operation of the facility to help them perform their duties more efficiently, reduce losses, and thereby increase profitability.

Other Costs

Other costs incurred during the fruit processing are detailed in the tables below. All of these costs are expected to escalate at 8% per annum.

Table 14: Other Costs

Fresh Fruits Processing	
Packing cost - PKR/ KG	8
Waxing cost - PKR/ KG	5
Other overheads - PKR/ month	300,000

Fruit Pulping Facility	
Aseptic bag - PKR/ Ton	4,450
Drum - PKR/ Ton	11,400
Processing cost - PKR/ Ton	8,500
Overheads - PKR/ Ton	5,000

Dehydration Facility	
Processing cost - PKR/ KG	30
Overheads - PKR/ KG	22
Packing Cost - PKR/ KG	15

Repair and Maintenance Costs

Repair and maintenance cost are expected to be low in the initial years of operation as the assets will newly built up or installed . However, a maintenance fund model has been assumed with costs at 5% of P & M cost. Over time as assets become older, expenses towards repairs and maintenance will increase.

Insurance costs

Insurance costs have been estimated at 1% per annum of the total project costs. This figure is expected to increase at 5% per year.

3.5 Depreciation Assumptions

The following assumptions for useful life of assets have been applied for the purposes of financial pre-feasibility study:

Table 15: Assets Useful Life

Assets useful life (Years)	
Plant and machinery	15
Building	20
Furniture, fixtures & office equipment	10
Vehicles	10

3.6 Working capital assumptions

The following working capital assumptions have been applied for the purposes of financial pre-feasibility study:

Table 16: Working Capital Assumptions

Working capital assumptions	
Raw material (inventory in months)	1
Finished product (months)	1
Trade debts (days)	25
Trade creditors (days)	60

3.7 Financing Assumptions

For the purpose of this financial pre-feasibility, the debt to equity ratio has been assumed as 60% debt and 40% equity. At these levels, the investors will be required to plough in equity of PKR 120.3 million in the first year. Debt financing of up to PKR 180.5 million will be required during the construction period of the project. Financing cost has been estimated at KIBOR (currently 10.5%) + 3%.

3.8 Project returns

The indicative project and equity return have been identified below. The NPV has been calculated with reference to a hurdle rate of 15%.

Based on cash flow projections prepared after taking into consideration project set up costs and operating results, the project is expected to generate IRR of 24.4% for the equity investor. Please refer charts on the following pages for profitability analysis.

Project IRR	19.96%
Project NPV @15%	63,785,726
Equity IRR	24.40%
Equity NPV @15%	68,035,256

Chart 2: Profit Margins

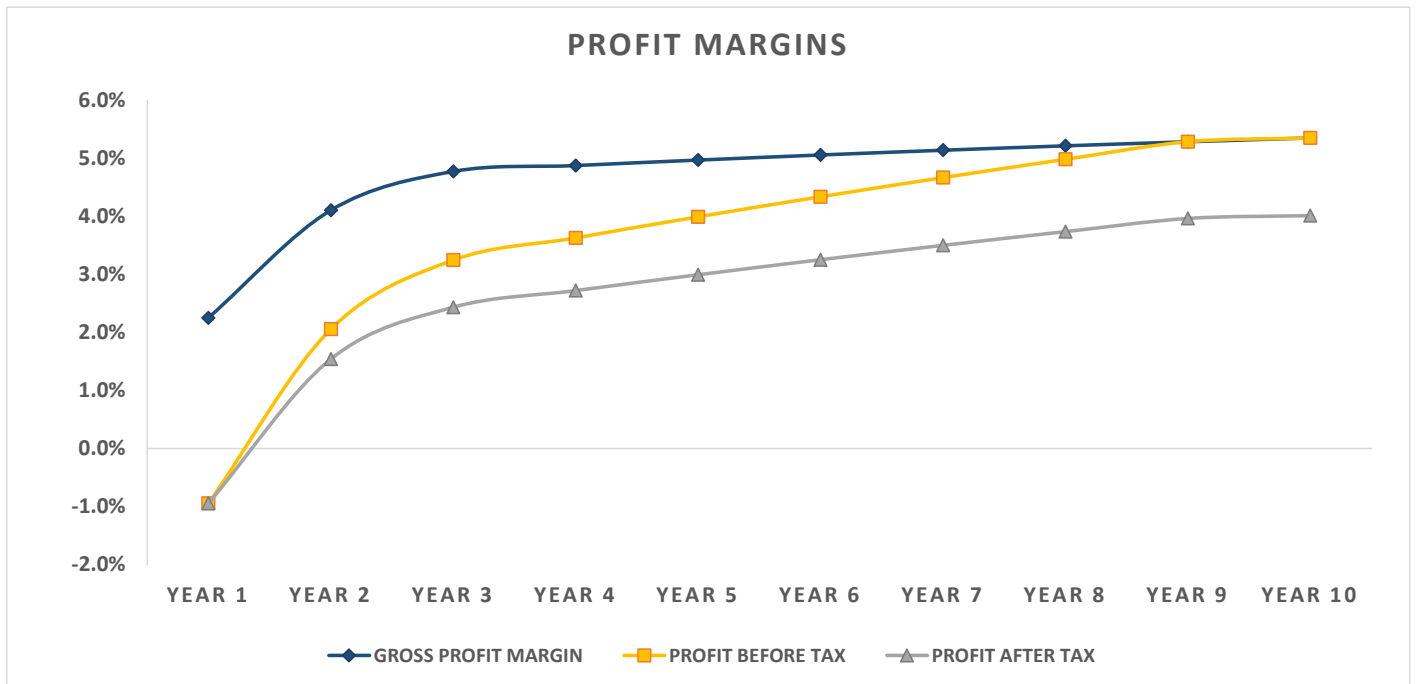


Chart 3: Free Cashflows

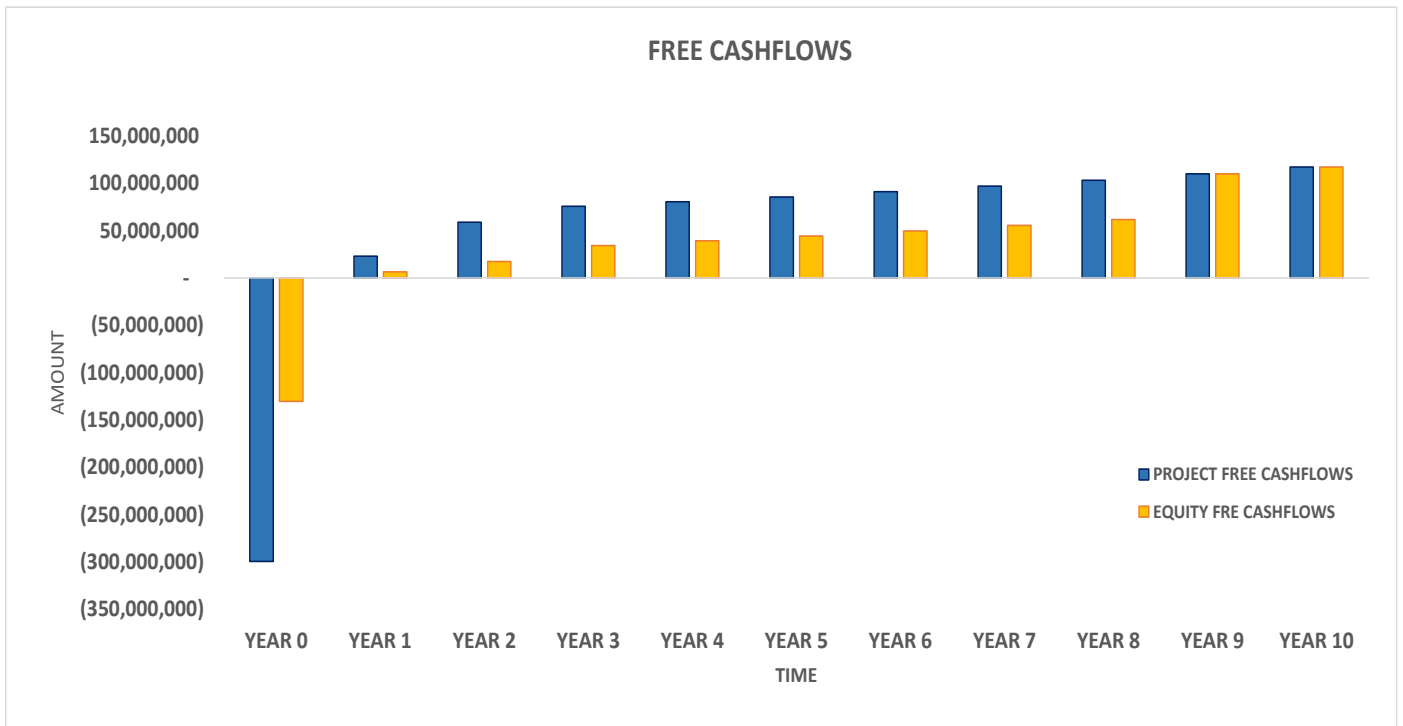
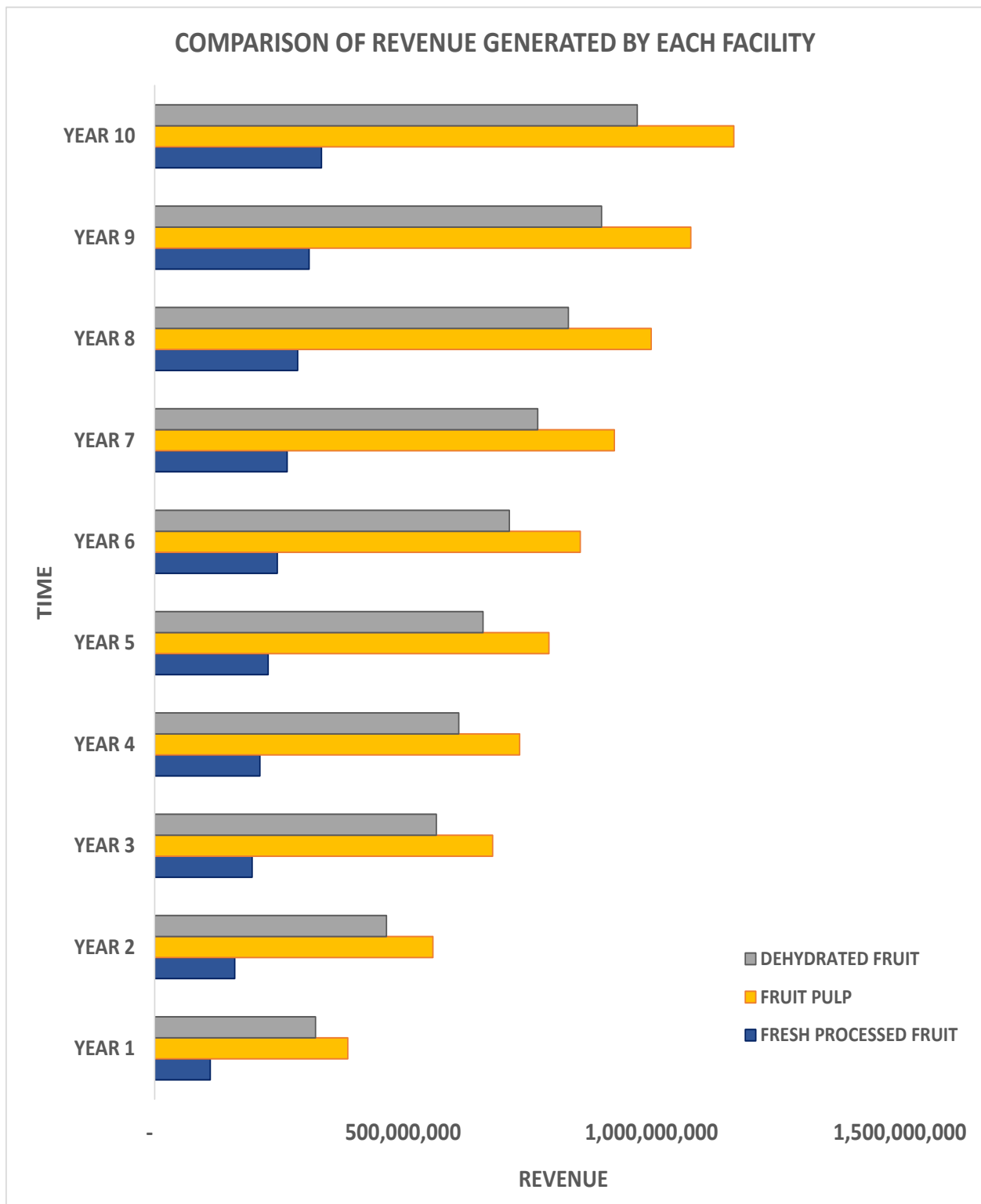


Chart 4: Revenue Comparison



Appendices

Appendix I: Indicative Financial Statements

Projected Balance Sheet

FRUIT PROCESSING FACILITY PROJECTED BALANCE SHEET						
Amounts in PKR						
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Fixed Assets	300,985,637	282,385,285	263,784,933	245,184,582	226,584,230	207,983,879
Current Assets						
Stocks in trade	-	87,133,923	125,472,849	152,449,512	164,645,473	177,817,111
Trade debts	-	56,496,390	81,354,802	98,846,085	106,753,771	115,294,073
Cash & bank balances	25,000,000	6,588,861	24,048,881	58,252,334	97,455,015	141,721,600
	25,000,000	150,219,174	230,876,533	309,547,930	368,854,260	434,832,784
Total Assets	325,985,637	432,604,459	494,661,466	554,732,512	595,438,490	642,816,663
Share Capital & Reserves						
Share capital	130,394,255	130,394,255	130,394,255	130,394,255	130,394,255	130,394,255
Retained earnings	-	(7,803,213)	10,535,031	45,717,760	88,193,270	138,656,711
	130,394,255	122,591,042	140,929,285	176,112,014	218,587,525	269,050,966
Long term debt	180,537,474	163,451,289	144,058,468	122,047,617	97,065,301	68,710,372
Current liabilities						
Creditors/ liabilities	-	129,475,944	184,168,144	222,834,453	240,644,845	259,879,249
Tax payable	-	-	6,112,748	11,727,576	14,158,503	16,821,147
Current portion - LT debt	15,053,908	17,086,185	19,392,820	22,010,851	24,982,316	28,354,929
	15,053,908	146,562,129	209,673,712	256,572,880	279,785,664	305,055,325
Total equity & liabilities	325,985,637	432,604,459	494,661,466	554,732,512	595,438,490	642,816,663

FRUIT PROCESSING FACILITY PROJECTED BALANCE SHEET					
Amounts in PKR					
	Year 6	Year 7	Year 8	Year 9	Year 10
Fixed Assets	189,383,527	170,783,175	152,182,824	133,582,472	114,982,121
Current Assets					
Stocks in trade	192,042,480	207,405,878	223,998,348	241,918,216	261,271,674
Trade debts	124,517,599	134,479,007	145,237,327	156,856,314	169,404,819
Cash & bank balances	191,425,144	246,963,884	308,762,608	418,732,787	535,897,745
	507,985,223	588,848,769	677,998,284	817,507,317	966,574,237
Total Assets	697,368,750	759,631,945	830,181,108	951,089,789	1,081,556,358
Share Capital & Reserves					
Share capital	130,394,255	130,394,255	130,394,255	130,394,255	130,394,255
Retained earnings	197,873,610	266,687,479	346,028,299	436,921,983	536,303,238
	328,267,864	397,081,733	476,422,554	567,316,237	666,697,493
Long term debt	36,527,528	-	-	-	-
Current liabilities					
Creditors/ liabilities	280,651,547	303,084,727	327,311,614	353,475,658	381,731,780
Tax payable	19,738,966	22,937,956	26,446,940	30,297,895	33,127,085
Current portion - LT debt	32,182,844	36,527,528	-	-	-
	332,573,358	362,550,212	353,758,554	383,773,552	414,858,865
Total equity & liabilities	697,368,750	759,631,945	830,181,108	951,089,789	1,081,556,358

3.9 Projected Income Statement

FRUIT PROCESSING FACILITY					
PROJECTED INCOME STATEMENT					
Amounts in PKR					
	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue					
Fresh precessed fruits	112,047,300	161,348,112	196,037,956	211,720,993	228,658,672
Fruit pulp	388,800,000	559,872,000	680,244,480	734,664,038	793,437,161
Dehydrated fruits	324,000,000	466,560,000	566,870,400	612,220,032	661,197,635
	<u>824,847,300</u>	<u>1,187,780,112</u>	<u>1,443,152,836</u>	<u>1,558,605,063</u>	<u>1,683,293,468</u>
Costs					
Fresh fruits processing					
Fruit purchase costs	85,860,000	123,638,400	150,220,656	162,238,308	175,217,373
Waxing cost	4,860,000	6,998,400	8,503,056	9,183,300	9,917,965
HR Cost - Management	2,400,000	2,592,000	2,799,360	3,023,309	3,265,174
HR Cost - Staff	4,320,000	4,665,600	5,038,848	5,441,956	5,877,312
Packing cost	7,776,000	11,197,440	13,604,890	14,693,281	15,868,743
Fruit pulping					
Fruit purchase costs	274,752,000	395,642,880	480,706,099	519,162,587	560,695,594
Aseptic bags	9,612,000	13,841,280	16,817,155	18,162,528	19,615,530
Drums	24,624,000	35,458,560	43,082,150	46,528,722	50,251,020
Processing costs	18,360,000	26,438,400	32,122,656	34,692,468	37,467,866
Overheads	10,800,000	15,552,000	18,895,680	20,407,334	22,039,921
HR Cost - Management	4,800,000	5,184,000	5,598,720	6,046,618	6,530,347
HR Cost - Staff	7,776,000	8,398,080	9,069,926	9,795,521	10,579,162
Dehydration					
Fruit purchase costs	272,571,429	392,502,857	476,890,971	515,042,249	556,245,629
Processing cost	18,000,000	25,920,000	31,492,800	34,012,224	36,733,202
Overheads	13,200,000	19,008,000	23,094,720	24,942,298	26,937,681
Packing Cost	9,000,000	12,960,000	15,746,400	17,006,112	18,366,601
HR Cost - Management	2,400,000	2,592,000	2,799,360	3,023,309	3,265,174
HR Cost - Staff	4,320,000	4,665,600	5,038,848	5,441,956	5,877,312
Repair & maintenance costs	9,204,040	9,940,363	10,735,592	11,594,440	12,521,995
Insurance costs	3,009,856	3,160,349	3,318,367	3,484,285	3,658,499
Depreciation	18,600,352	18,600,352	18,600,352	18,600,352	18,600,352
	<u>806,245,677</u>	<u>1,138,956,561</u>	<u>1,374,176,607</u>	<u>1,482,523,156</u>	<u>1,599,532,452</u>
Margin	<u>18,601,623</u>	<u>48,823,551</u>	<u>68,976,229</u>	<u>76,081,907</u>	<u>83,761,016</u>
Other costs					
Admin & general expenses					
Financial costs	26,404,837	24,372,559	22,065,924	19,447,893	16,476,428
	<u>26,404,837</u>	<u>24,372,559</u>	<u>22,065,924</u>	<u>19,447,893</u>	<u>16,476,428</u>
Profit before tax	(7,803,213)	24,450,992	46,910,305	56,634,014	67,284,588
Tax	-	6,112,748	11,727,576	14,158,503	16,821,147
Profit after tax	<u>(7,803,213)</u>	<u>18,338,244</u>	<u>35,182,729</u>	<u>42,475,510</u>	<u>50,463,441</u>

FRUIT PROCESSING FACILITY					
PROJECTED INCOME STATEMENT					
Amounts in PKR					
	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue					
Fresh precessed fruits	246,951,366	266,707,475	288,044,073	311,087,599	335,974,607
Fruit pulp	856,912,134	925,465,105	999,502,314	1,079,462,499	1,165,819,499
Dehydrated fruits	714,093,445	771,220,921	832,918,595	899,552,082	971,516,249
	<u>1,817,956,945</u>	<u>1,963,393,501</u>	<u>2,120,464,981</u>	<u>2,290,102,180</u>	<u>2,473,310,354</u>
Costs					
Fresh fruits processing					
Fruit purchase costs	189,234,763	204,373,544	220,723,428	238,381,302	257,451,806
Waxing cost	10,711,402	11,568,314	12,493,779	13,493,281	14,572,744
HR Cost - Management	3,526,387	3,808,498	4,113,178	4,442,233	4,797,611
HR Cost - Staff	6,347,497	6,855,297	7,403,721	7,996,019	8,635,700
Packing cost	17,138,243	18,509,302	19,990,046	21,589,250	23,316,390
Fruit pulping					
Fruit purchase costs	605,551,242	653,995,341	706,314,968	762,820,166	823,845,779
Aseptic bags	21,184,772	22,879,554	24,709,918	26,686,712	28,821,649
Drums	54,271,102	58,612,790	63,301,813	68,365,958	73,835,235
Processing costs	40,465,295	43,702,519	47,198,720	50,974,618	55,052,587
Overheads	23,803,115	25,707,364	27,763,953	29,985,069	32,383,875
HR Cost - Management	7,052,775	7,616,997	8,226,356	8,884,465	9,595,222
HR Cost - Staff	11,425,495	12,339,535	13,326,698	14,392,833	15,544,260
Dehydration					
Fruit purchase costs	600,745,279	648,804,902	700,709,294	756,766,037	817,307,320
Processing cost	39,671,858	42,845,607	46,273,255	49,975,116	53,973,125
Overheads	29,092,696	31,420,112	33,933,721	36,648,418	39,580,292
Packing Cost	19,835,929	21,422,803	23,136,628	24,987,558	26,986,562
HR Cost - Management	3,526,387	3,808,498	4,113,178	4,442,233	4,797,611
HR Cost - Staff	6,347,497	6,855,297	7,403,721	7,996,019	8,635,700
Repair & maintenance costs	13,523,754	14,605,655	15,774,107	17,036,036	18,398,919
Insurance costs	3,841,424	4,033,495	4,235,170	4,446,929	4,669,275
Depreciation	18,600,352	18,600,352	18,600,352	18,600,352	18,600,352
	<u>1,725,897,265</u>	<u>1,862,365,775</u>	<u>2,009,746,004</u>	<u>2,168,910,601</u>	<u>2,340,802,014</u>
Margin	<u>92,059,680</u>	<u>101,027,726</u>	<u>110,718,977</u>	<u>121,191,578</u>	<u>132,508,340</u>
Other costs					
Admin & general expenses					
Financial costs	13,103,816	9,275,900	4,931,216	-	-
	<u>13,103,816</u>	<u>9,275,900</u>	<u>4,931,216</u>	<u>-</u>	<u>-</u>
Profit before tax	78,955,865	91,751,825	105,787,760	121,191,578	132,508,340
Tax	19,738,966	22,937,956	26,446,940	30,297,895	33,127,085
Profit after tax	<u>59,216,899</u>	<u>68,813,869</u>	<u>79,340,820</u>	<u>90,893,684</u>	<u>99,381,255</u>

Projected Cashflow Statement

FRUIT PROCESSING FACILITY PROJECTED CASH FLOW STATEMENT						
Amounts in PKR						
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Profit before taxation	-	(7,803,213)	24,450,992	46,910,305	56,634,014	67,284,588
Adjustment of non-cash items						
Depreciation	-	18,600,352	18,600,352	18,600,352	18,600,352	18,600,352
Financial charges	-	26,404,837	24,372,559	22,065,924	19,447,893	16,476,428
	-	37,201,975	67,423,902	87,576,581	94,682,258	102,361,368
Working capital changes						
current assets	-	(143,630,314)	(63,197,338)	(44,467,945)	(20,103,648)	(21,711,940)
current Liabilities	-	129,475,944	54,692,200	38,666,309	17,810,392	19,234,405
	-	(14,154,370)	(8,505,138)	(5,801,636)	(2,293,256)	(2,477,535)
	-	23,047,605	58,918,765	81,774,945	92,389,002	99,883,833
Taxes paid	-	-	-	(6,112,748)	(11,727,576)	(14,158,503)
Interest paid	(26,404,837)	(26,404,837)	(24,372,559)	(22,065,924)	(19,447,893)	(16,476,428)
Cash flow from Operations	(26,404,837)	(3,357,231)	34,546,206	53,596,273	61,213,533	69,248,901
Capital expenditure	(274,580,800)					
Equity	130,394,255					
Debt	195,591,382	(15,053,908)	(17,086,185)	(19,392,820)	(22,010,851)	(24,982,316)
Total cash generated	25,000,000	(18,411,139)	17,460,020	34,203,452	39,202,682	44,266,585
Opening cash	-	25,000,000	6,588,861	24,048,881	58,252,334	97,455,015
Closing cash	25,000,000	6,588,861	24,048,881	58,252,334	97,455,015	141,721,600

FRUIT PROCESSING FACILITY PROJECTED CASH FLOW STATEMENT					
Amounts in PKR					
	Year 6	Year 7	Year 8	Year 9	Year 10
Profit before taxation	78,955,865	91,751,825	105,787,760	121,191,578	132,508,340
Adjustment of non-cash items					
Depreciation	18,600,352	18,600,352	18,600,352	18,600,352	18,600,352
Financial charges	13,103,816	9,275,900	4,931,216	-	-
	110,660,032	119,628,077	129,319,328	139,791,930	151,108,692
Working capital changes					
current assets	(23,448,895)	(25,324,806)	(27,350,791)	(29,538,854)	(31,901,962)
current Liabilities	20,772,298	22,433,180	24,226,887	26,164,043	28,256,123
	(2,676,597)	(2,891,627)	(3,123,904)	(3,374,811)	(3,645,840)
	107,983,435	116,736,451	126,195,425	136,417,119	147,462,852
Taxes paid	(16,821,147)	(19,738,966)	(22,937,956)	(26,446,940)	(30,297,895)
Interest paid	(13,103,816)	(9,275,900)	(4,931,216)	-	-
Cash flow from Operations	78,058,473	87,721,584	98,326,252	109,970,179	117,164,958
Capital expenditure					
Equity					
Debt	(28,354,929)	(32,182,844)	(36,527,528)	-	-
Total cash generated	49,703,544	55,538,740	61,798,724	109,970,179	117,164,958
Opening cash	141,721,600	191,425,144	246,963,884	308,762,608	418,732,787
Closing cash	191,425,144	246,963,884	308,762,608	418,732,787	535,897,745

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