



**Pre-feasibility Study**

# **RICE HUSKING AND POLISHING UNIT**

**February 2021**

*“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

The objective of 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 have been taken to compile this document, the contained information may vary due to any change in any of the concerned factors as the future is uncertain, 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 to be obtained by the user. 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 making any decision to act upon the information.

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### ***Document Control***

Document No.	PREF-NO 62
Revision	No. 5
Prepared by	SMEDA Punjab – OS
Revision Date	February, 2021
For information	<a href="mailto:helpdesk.punjab@smeda.org.pk">helpdesk.punjab@smeda.org.pk</a>

## 2 EXECUTIVE SUMMARY

Pakistan is the world's 10<sup>th</sup> largest producer of rice. Pakistan's exports make up more than 8% of world's total rice trade. It is an important crop in the agriculture economy of Pakistan. Rice is grown in irrigated areas of all four provinces of Pakistan. The most notable varieties of Rice in Pakistan mainly include Basmati and IRRI. The Super Basmati Rice is the most popular variety around the world, due to its taste, aroma, and nutritious value. There is immense potential for value addition in the rice sector, such as quality polishing and packaging. Branded rice is becoming popular in both domestic and international markets.

This particular pre-feasibility study is about setting up a 'Rice Husking and Polishing Unit' in any nearby city to rice growing areas in Pakistan. The unit would be de-husking rice paddy and polishing rice grains to convert it into a value-added, marketable product. According to the proposed business model, the unit will provide husking and polishing services to rice producers on commercial basis as well as husking and polishing of own basmati rice paddy purchased from the market.

The unit will have the capacity to de-husk 10,500 tons of rice and polish 18,000 tons of rice annually. However, unit will operate at 60% of the installed capacity during first year of operation with a gradual increase of 5% in subsequent years to achieve the maximum capacity utilization of 90%. This production capacity is estimated to be economically viable and justifies the capital as well as operational cost of the project. Complete adherence to best agronomic practices and easy access to market is critical to the success of this project.

The total project cost is estimated at Rs. 105.76 million with a capital investment of Rs. 86.82 million and working capital Rs. 18.94 million. Based on an equity finance model, the project NPV is around Rs. 78.37 million, with an IRR of 31% and a Payback Period of 3.98 years. The project will provide direct employment opportunities to 43 people including owner manager; additionally, part-time labour will also be engaged. The legal business 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 the development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through the 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 have 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 the 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, production, marketing, finance, and business management.

The purpose of this document is to facilitate potential investors in **Rice Husking and Polishing Unit** 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 the basis of an informed Investment Decision.

## 5 BRIEF DESCRIPTION OF PROJECT AND PRODUCT

There are a number of different varieties of rice produced in Pakistan, major varieties include the Basmati and IRRI of which the world renowned Super Basmati is only produced in Pakistan. This particular feasibility is about setting up a Rice Husking and Polishing unit that removes the husk and the bran layers from paddy rice to produce whole white rice kernels that are sufficiently milled, free of impurities, and contain a minimum number of broken kernels.

The proposed unit would be providing husking and polishing services to rice producers on commercial basis. Additionally, the unit would also be purchasing

Basmati Rice paddy for de-husking and polishing and sell it into the market. The rice processed after self-purchase from market will be sold to wholesalers as well as direct selling to commercial traders and retail chains. The husking unit would operate 7 months a year and the polishing unit works all year round. The unit will be equipped with state-of-the-art machinery including husking, polishing, grading and packaging machines. The proposed rubber-roller husker is the most efficient husking machine that minimizes broken or cracked grain.

The project is proposed to be set up in any of the rice planting areas and big cities of Punjab and Sindh and some parts of Baluchistan and KPK. The legal status of the proposed project can either be sole proprietorship or partnership. However, this pre-feasibility assumes the legal status to be 'Sole Proprietorship'.

## **5.1 Production Process**

### Rice Husking

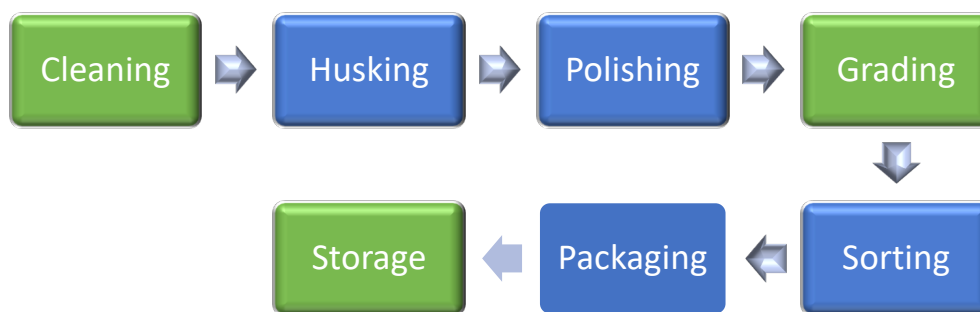
Husking is the process of separating the rice from the husk. Rubber roll and hullers are used to shatter the paddy to produce rice. The husking of paddy produces different products, which include 55.0% Head Rice, 9.0% Broken Rice, 3.5% Powder Rice, 31.5% Husk and 1.0% Waste and Dust Particles. Different processes are used for separation of head rice, broken rice, rice powder, dust and bran. The husking unit operates seven months in a year.

### Rice Polishing

Polishing is the process of cleaning and polishing of brown rice (head / broken rice) to produce different value-added rice products such as silky and non-silky rice. In this process various types of cleaners / polishers are used to give shine and silkiness to rice.

In the current industrial practice, both the husking and polishing units are not operated at the same time due to certain reasons. After the husking operation, the brown rice requires a time of six to ten weeks for drying and conditioning. So, the brown rice is stored for a period of at least two months before taking it to the polishing process.

The proposed unit would polish (process) in-house rice obtained from the husking process and the remaining capacity would be used to provide rice-polishing services to other rice suppliers. The processed rice (both brown rice and polished rice) would be stored during the first few months of harvesting season, as the prices are generally lower due to oversupply of rice in the market.

**Figure1: Production Process Flow Diagram**

## 5.2 Product Mix

The proposed project would mainly provide husking and polishing services to rice producers who do not own a husking and polishing unit. It is assumed that 85% of the machinery capacity would be utilized in providing services to rice producers, while the remaining 15% of the capacity would be used to process the own paddy rice purchased from the market / growers.

**Table 1: Husking and Polishing Operations**

Product Mix	Percentage
Services to External Rice Producers	85%
De-husking / Polishing of Own Paddy	15%

The products produced from the husking unit include Head Rice, Broken Rice, Powder and Husk. The head rice would be processed further for polishing, whereas the broken rice, powder and husk are sold into the market. The percentage of each product is given in the table below.

**Table 2: Products of Husking Process**

Description	Percentage
Rice for Polishing	55.0%
Husk	31.5%
Broken Rice	9.0%
Powder	3.5%
Waste	1.0%
<b>Total</b>	<b>100.00%</b>

The products produced from the polishing operation and their percentages are given in the table below:

**Table 3: Products of Polishing Process**

Description	Percentage
Polished Silky Rice	40%
Polished Non-Silky Rice	40%
Polished Broken Rice	10%
Bran	10%
<b>Total</b>	<b>100.00%</b>

### 5.3 Installed and Operational Capacities

The proposed manufacturing unit will have the capacity to process 10,500 tons of rice for husking and 18,000 tons of rice for polishing in a year. However, the initial operating capacity of the project will be 60% with an annual increase of 5% and it will achieve a maximum operational capacity of 90% in 7<sup>th</sup> year. The unit would operate for 20 hours per day, working in 2 shifts of 10 hours each.

**Table 4: Installed and Operational Capacity**

Description	Total Installed Capacity (Tons)	Operational Capacity 60% (Year 1) – Tons	Maximum Operational Capacity 90% (Year 7) – Tons
Rice Husking	10,500	6,300	9,450
Rice Polishing	18,000	10,800	16,200

## 6 CRITICAL SUCCESS FACTORS

Following are the critical success factors for this business venture:

- ⇒ Technical knowledge and experience in the field of food processing technology / business are necessary.
- ⇒ Complete adherence to best agronomic practices is critical to the success of this project.
- ⇒ Selection of quality paddy rice on the basis of the best analysis of cost and revenues for a given season.
- ⇒ Appropriate logistics and transportation of paddy rice to the processing unit.



- ⇒ Organic rice produced with the use of bio-fertilizer, bioinsecticides, and pesticides has a good domestic and international market.
- ⇒ Careful selection of good location and purchase of land at a competitive price.
- ⇒ Effective marketing and distribution of the product particularly to the retailers
- ⇒ Brand positioning and enhancement of the production of rice may widen the market for the product.

## 7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

As per current agricultural practices, rice cultivation is mainly concentrated in upper Punjab and Sindh and in some parts of South Punjab, Baluchistan and KPK. Keeping in view the varying geographical locations for rice cultivation, it is recommended that the project may be preferably located in the vicinity of urban areas of Punjab and Sindh for easy access and availability of the high quality paddy rice.

Following areas could be the most appropriate locations for the proposed unit; Sialkot, Gujrat, Jhang, Mandi Bahhaudain, Hafizabad, Gujranwala, Narowal, Sheikhpura, Okara, Kasur, Bahawalnagar, Kashmore, Larkana, Dadu, Jacobabad, Jafferabad, Naseerabad, Mardan, etc.

## 8 POTENTIAL TARGET CUSTOMERS / MARKETS

For own processed rice, the potential target market will be the general public of upper-middle-income groups of urban cities, who generally prefer to buy rice from supermarkets and big departmental stores. Taking that into consideration, all the major metropolitan cities, as well as urban and semi-urban cities across Pakistan, would be the potential target markets for the proposed business.

Besides that, the following segments of clients in all the major cities of Pakistan will also be the potential target customers for the proposed business venture:

- ⇒ Departmental / Super Stores and Retail Chains
- ⇒ Traders, Suppliers, and Exporters of Rice
- ⇒ Hotels, Restaurants and Banquet Halls

## 9 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of the Rice Husking and Polishing unit. Various cost and revenue-related assumptions along with the results of the analysis are outlined in this section.

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

## 9.1 Project Economics

All the figures in this financial model have been calculated on the basis of Rice Husking and Polishing capacity of 60 tons per day. The following table shows the Internal Rate of Return, Payback Period, and Net Present Value of the proposed venture.

**Table 5: Project Economics (Equity Financed)**

Description	Details
Internal Rate of Return (IRR)	31%
Payback Period (Yrs.)	3.98
Net Present Value (Rs.)	78,373,592

Calculation of break-even analysis is as follows:

**Table 6: 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	58,628,619	50,977,981	50,911,851	51,037,437	51,427,723	51,633,636	53,328,436	55,506,377	58,426,589	62,191,501
Break-Even Units	10,110	7,644	7,267	6,935	6,653	6,359	6,253	6,167	6,182	6,267
Margin of Safety	39%	57%	62%	67%	70%	73%	75%	75%	75%	75%

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

**Table 7: Project Economics Based on Debt (50%): Equity (50%)**

Description	Details
Internal Rate of Return (IRR)	31%
Payback Period (Yrs.)	3.85
Net Present Value (Rs.)	108,619,773

The financial assumptions for Debt: Equity is as follows:

**Table 8: Financial Assumptions for Debt: Equity Model**

Description	Details
Debt	50%
Equity	50%
Interest Rate on Debt	12%
Debt Tenure	5
Debt Payments / Year	2

The projected Income Statement, Balance Sheet, and Cash Flow Statement enclosed as annexures are based on a 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 9: Project Cost**

Description	Amount Rs.
<b>Capital Cost</b>	
Building/Infrastructure	53,244,650
Machinery and Equipment	18,516,016
Land	6,400,000
Pre-Operating Costs	3,709,000
Office Vehicles	2,654,207
Furniture and Fixtures	1,162,100
Office Equipment	1,131,100
<b>Total Capital Cost</b>	<b>86,817,073</b>
<b>Working Capital</b>	
Raw Material Inventory	15,025,500
Cash	3,277,672
Upfront Insurance Payment	608,565
Equipment Spare Parts Inventory	26,719

<b>Total Working Capital</b>	<b>18,938,456</b>
<b>Total Project Cost</b>	<b>105,755,529</b>

### 9.3 Land and Building Requirement

The most important factor for setting up a rice unit is accessibility to raw material. Therefore, the unit should preferably be set up in areas, where rice is grown. It is suggested to purchase land for setting up this project, as the investment required for infrastructure and other costs are high and it is not advisable to invest a huge amount on leased or rented area. Total land requirement for the proposed project is estimated as 8 Kanals costing Rs 8 million per Kanal. Details of space requirement and cost related to land & building are given below.

**Table 10: Land and Building Requirement**

<b>Description</b>	<b>Area (Sq. Ft.)</b>	<b>Unit Cost (Rs.)</b>	<b>Total Cost (Rs.)</b>
Paddy Storage 2	6,000	1,500	9,000,000
Finished Rice	6,000	1,500	9,000,000
Paddy Storage 1	5,000	1,500	7,500,000
Weighing and Packing Area	4,000	1,500	6,000,000
Husking Hall	3,000	1,500	4,500,000
Polishing Hall	3,000	1,500	4,500,000
Processing Hall (For Machinery)	2,525	1,500	3,787,500
Management Building	1,250	2,500	3,125,000
Masjid	1,000	2,000	2,000,000
Design Cost	2.5%		1,298,650
Boundary Wall and Main Gate	920 run. ft.	1,300	1,196,000
Cafeteria	500	1,500	750,000
Electric Room	225	1,500	337,500
Free Space	5,000	50	250,000
<b>Total</b>			<b>53,244,650</b>

## 9.4 Machinery and Equipment Requirement

The machinery for the husking and polishing unit will be imported. Amongst the foreign suppliers, China is considered to be more competitive than other countries. For this pre-feasibility study, machinery is considered to be purchased from China to have increased productivity, cost effectiveness and quality output.

Following machinery and equipment is required for establishing a Rice Husking and Polishing unit:

**Table 11: Machinery and Equipment**

Description	Qty	Unit Cost (Rs.)	Total Cost (Rs.)
<b>Husking Machinery:</b>			
Emery Rice Mill (NF15)	2	249,938	499,875
Steel Platform and Connecting Parts	1	446,555	446,555
Single Elevator (TDTG18/11)	6	66,650	399,900
Rubber Roller Husker (MLGT25)	1	349,913	349,913
Combined Rolling Cleaner and Destoner (TZQY75/QSX65)	1	346,580	346,580
Full Reliy Control Panel with Cables	1	242,106	242,106
Paddy Separator(MGCZ80×7)	1	209,948	209,948
Blower for Cleaning (4-72-4A)	1	196,951	196,951
Bran Blower (9-26-4A)	1	158,294	158,294
Rice Grader (MMJP63×3)	1	158,294	158,294
Magnetic Grid (Basic Configuration)	5	26,827	134,133
<b>Polishing Machinery:</b>			
Polisher (MPGT14)	1	634,008	634,008
Polisher Blower (9-19-4.5A)	1	114,971	114,971
Single Elevator (TDTG18/11)	1	66,650	66,650
<b>Packing Machinery</b>			
Electronic Scale (DCS-50A)	1	723,986	723,986
Single Elevator (TDTG18/11)	1	66,650	66,650
<b>Color Sorter Machinery</b>			

Color Sorter (ZK-80)	1	1,716,238	1,716,238
Single Elevator (TDTG18/11)	2	66,650	133,300
Air Compressor (OL-100)	1	96,643	96,643
Air Tank (0.3L/0.8kg)	1	16,663	16,663
<b>Sub Total</b>			<b>6,711,658</b>
Custom Duty, Sale Tax, Clearance Charges			4,454,461
<b>Total Machinery Cost</b>			<b>11,166,119</b>
Generator (Perkins-UK Diesel 150 KVA)			3,568,500
Installation Cost (Fabrication Cost)	1	2,000,000	2,000,000
Transformer (200 KVA)	1	965,000	965,000
Experts Cost	1	584,500	584,500
Industrial Exhaust Fans	6	38,650	231,900
<b>Grand Total Machinery and Equipment</b>			<b>18,516,019</b>

## 9.5 Furniture and Fixtures Requirement

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

**Table 12: Furniture and Fixture**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Electric Wiring and Lighting		500,000	500,000
Chairs	31	6,400	198,400
Tables	15	10,000	150,000
Fans	22	4,500	99,000
Tube Lights	107	800	85,600
Carpeting	50 sq. ft.	1,250	62,500
Exhaust Fans	10	3,000	30,000
Sofa Set	1	25,000	25,000
Guest Chairs	2	5,800	11,600

<b>Total</b>			<b>1,162,100</b>
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## 9.6 Office Equipment Requirement

Following office equipment will be required for the proposed project.

**Table 13: Office Equipment**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Air Conditioners	3	83,000	249,000
Computers	8	25,000	200,000
Laptops	3	60,500	181,500
Fire Extinguishers	20	9,000	180,000
UPS	1	95,000	95,000
Water Cooler	2	45,000	90,000
Fridge	1	51,500	51,500
Computer printers	2	16,000	32,000
LED	1	32,500	32,500
Microwave Oven	1	10,000	10,000
Telephones	8	1,200	9,600
<b>Total</b>			<b>1,131,100</b>

## 9.7 Vehicle Requirement

Vehicles are required for transportation of raw material and finished goods. A Porter Pick-up is recommended to ensure smooth movement of goods. Details of the vehicles required for the project are given below:

**Table 14: Vehicles Required**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Motorcycle (CD 70)	1	77,900	77,900
Porter Pick-up	1	2,499,000	2,499,000
Registration Fees			77,307
<b>Total</b>			<b>2,654,207</b>

## 9.8 Raw Material Requirement

The main raw material required for Rice Husking and Polishing unit is paddy. Since 85% capacity of the proposed unit would be providing husking and polishing services to other rice producers having their paddy, only the remaining 15% will be purchased from the market. The raw material for this project can be purchased directly from rice cultivators/farmers and grain markets of different cities.

**Table 15: Raw Material Requirement (Year1)**

Description	Tons	Cost per Ton (Rs.)
Basmati Paddy	945	31,000

## 9.9 Human Resource Requirement

For this particular feasibility, a mix of permanent and part time labor is proposed. A maximum of 40 workers would be required for weighing, packing, and stacking rice paddy and rice bags. In order to run the operations smoothly, details of human resources required along with the number of employees and monthly salary are recommended as under:

**Table 16: Human Resource Requirement**

Description	No. of Employees	Monthly Salary Per Person (Rs.)
CEO	1	150,000
Production Manager	1	70,000
Finance Manager	1	50,000
Marketing and Sales Manager	1	50,000
Production Supervisor	2	30,000
Sales Officer	2	30,000
Admin/IT	1	30,000
Electrician	2	30,000
Permanent Labour	20	25,000
Accounts Officer	2	25,000
Driver	1	22,000



Security Guard	4	20,000
Helper/Part-Time*	40	18,000
Office Boys	2	18,000
Store In-charge	1	18,000
Store Assistant	2	18,000
<b>Total</b>	<b>83</b>	

\*The labour is outsourced as a market norm and are paid at Rs. 55 to 65 on average per bag

### 9.10 Utilities and Other Costs

An essential cost to be borne by the project is the cost of electricity and diesel expenses for generator, which are assumed as Rs. 5.45 million and 3.46 million, respectively during first year of operations. An increase of 10% in electricity and diesel expenses is assumed in subsequent years. Similarly, raw material transportation cost is worked out at Rs. 800 per ton and travelling expenses are estimated as 10% of administrative expenses. The water and gas expenses are estimated at Rs 5,000 and Rs. 15,000 per month, respectively. Furthermore, promotional expense being essential for marketing of the unit is estimated as 2% of total revenue.

### 9.11 Revenue Generation

The following table provides assumptions for revenue generation of the proposed Rice Husking and Polishing unit during the first year of operations.

**Table 17: Revenue Generation (Year 1)**

Description	Price (Rs./ Ton)	Quantity Sold / Processed (Tons)	Total Revenue (Rs.)
<b>Rice Husking</b>			
Broken Rice	70,000	85	5,953,500
Powder	29,700	33	982,328
Husk	8,700	298	2,589,773
Rice Husking Service	1,990	5355	10,656,450
<b>Rice Husking Revenue</b>			<b>20,182,050</b>
<b>Rice Polishing</b>			

Polished Silky Rice	142,500	173	24,688,125
Polished Non-Silky Rice	135,500	173	23,475,375
Polished Broken Rice	83,500	43	3,616,594
Bran	29,700	52	1,543,658
Rice Polish Service	2,050	10,800	22,140,000
<b>Rice Polishing Revenue</b>			<b>75,463,751</b>
<b>Total Revenue</b>			<b>95,645,801</b>

## 10 CONTACT DETAILS

In order to facilitate potential investors, contact details of private-sector vendors relevant to the proposed project are given below.

Name of Supplier	Type of Supplies	E-Mail / Website	Phone / Fax
Hunan Sunfield Machinery Co., Ltd China	Machinery	<a href="mailto:sales-07@sunfieldam.com">sales-07@sunfieldam.com</a>	86-731-82293656
New Allied industries	Machinery	<a href="http://www.alliedind.com.pk">www.alliedind.com.pk</a>	+92-42-37933559, +92-42-37920577, +92-42-37910576, +92-42-37912515
Junaid Agro Engineering	Machinery	<a href="mailto:junaidagropk@gmail.com">junaidagropk@gmail.com</a>	055-3885595, 0300-6460595
ARY Sahulat Bazar,	Perkins Diesel Generator	<a href="http://www.arysahulatbazar.pk">www.arysahulatbazar.pk</a>	0333-1666981 0345-7142371
Woodpecker	Office Furniture	<a href="http://www.apnafurniture.pk/product/ace-office-table-or-workstation/">www.apnafurniture.pk/product/ace-office-table-or-workstation/</a>	0331-8999222, 0331-7151566
Shophive	Work Stations	<a href="http://www.shophive.com/am-workstation-w10569s5">www.shophive.com/am-workstation-w10569s5</a>	

## 11 USEFUL WEB LINKS

Small and 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 and Production	<a href="http://www.moip.gov.pk">www.moip.gov.pk</a>
Ministry of Education, Training, and Standards in Higher Education	<a href="http://moptt.gov.pk">http://moptt.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 Jammu 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 and Exchange 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 Vocational Training Council (PVTC)	<a href="http://www.pvtc.gov.pk">www.pvtc.gov.pk</a>
Technical Education and Vocational Training Authority (TEVTA)	<a href="http://www.tevta.org">www.tevta.org</a>
Ministry of National Food Security and Research (MNFSR)	<a href="http://www.mnsfr.gov.pk">www.mnsfr.gov.pk</a>
Pakistan Agriculture Research Council (PARC)	<a href="http://www.parc.gov.pk">www.parc.gov.pk</a>
National Agriculture Research Council (NARC)	<a href="http://www.narc.gov.pk">www.narc.gov.pk</a>
Rice Exporters Association of Pakistan	<a href="http://www.reap.com.pk">www.reap.com.pk</a>
Agriculture Department Government of Punjab	<a href="http://www.agripunjab.gov.pk">www.agripunjab.gov.pk</a>

Agriculture Department -Government of KPK	<a href="http://www.agriculture.kp.gov.pk">www.agriculture.kp.gov.pk</a>
Ayub Agricultural Research Institute	<a href="http://www.aari.punjab.gov.pk">www.aari.punjab.gov.pk</a>
University of Agriculture Faisalabad	<a href="http://www.uaf.edu.pk">www.uaf.edu.pk</a>
The University of Agriculture, Peshawar	<a href="http://www.aup.edu.pk">www.aup.edu.pk</a>
Sindh Agriculture University, Tandojam	<a href="http://www.sau.edu.pk">www.sau.edu.pk</a>
Balochistan Agriculture College, Quetta.	<a href="http://www.bac.edu.pk">www.bac.edu.pk</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	95,645,801	119,670,919	135,393,382	152,388,914	170,745,516	190,556,806	211,922,361	223,732,809	234,919,449	246,665,421
<i>Cost of sales</i>										
Basmati paddy	29,295,000	33,323,063	37,680,694	42,390,780	47,477,674	52,967,280	58,887,153	61,831,510	64,923,086	68,169,240
Transportation	756,000	859,950	972,405	1,093,956	1,225,230	1,366,898	1,519,668	1,595,652	1,675,434	1,759,206
Packing Cost	472,500	537,469	607,753	683,722	765,769	854,311	949,793	997,282	1,047,147	1,099,504
Operation costs 1 (direct labor)	15,360,000	16,128,000	16,934,400	17,781,120	18,670,176	19,603,685	20,583,869	21,613,062	22,693,716	23,828,401
Operating costs 2 (machinery maintenance)	1,282,500	1,458,844	1,649,616	1,855,818	2,078,516	2,318,844	2,578,009	2,706,909	2,842,255	2,984,368
Operating costs 3 (direct electricity)	7,914,785	8,350,685	9,649,773	11,101,668	12,723,852	14,535,802	16,559,214	17,827,823	19,205,871	20,703,431
Total cost of sales	55,080,785	60,658,010	67,494,641	74,907,064	82,941,217	91,646,819	101,077,706	106,572,240	112,387,509	118,544,151
Gross Profit	40,565,017	59,012,909	67,898,741	77,481,850	87,804,299	98,909,986	110,844,655	117,160,569	122,531,940	128,121,271
<i>General administration &amp; selling expenses</i>										
Administration expense	8,544,000	8,971,200	9,419,760	9,890,748	10,385,285	10,904,550	11,449,777	12,022,266	12,623,379	13,254,548
Administration benefits expense	854,400	897,120	941,976	989,075	1,038,529	1,090,455	1,144,978	1,202,227	1,262,338	1,325,455
Electricity expense	1,007,843	1,108,627	1,219,489	1,341,438	1,475,582	1,623,140	1,785,454	1,964,000	2,160,400	2,376,440
Water expense	60,000	63,000	69,458	80,406	97,734	124,736	167,158	235,208	347,509	539,100
Gas expense	180,000	189,000	208,373	241,217	293,201	374,207	501,473	705,623	1,042,527	1,617,301
Travelling expense	854,400	897,120	941,976	989,075	1,038,529	1,090,455	1,144,978	1,202,227	1,262,338	1,325,455
Communications expense (phone, fax, mail, internet, etc.)	427,200	448,560	470,988	494,537	519,264	545,227	572,489	601,113	631,169	662,727
Office vehicles running expense	79,626	87,589	96,348	105,982	116,581	128,239	141,063	155,169	170,686	187,754
Office expenses (stationary, entertainment, janitorial services, etc)	854,400	897,120	941,976	989,075	1,038,529	1,090,455	1,144,978	1,202,227	1,262,338	1,325,455
Promotional expense	1,912,916	1,721,624	1,377,300	964,110	578,466	289,233	260,310	234,279	210,851	189,766
Insurance expense	608,565	542,400	476,235	410,070	343,905	363,233	290,586	217,940	145,293	72,647
Professional fees (legal, audit, consultants, etc.)	478,229	598,355	676,967	761,945	853,728	952,784	1,059,612	1,118,664	1,174,597	1,233,327
Depreciation expense	5,392,646	5,392,646	5,392,646	5,419,363	5,419,363	5,743,447	5,774,376	5,774,376	5,774,376	5,810,180
Amortization of pre-operating costs	741,800	741,800	741,800	741,800	741,800	-	-	-	-	-
Bad debt expense	2,869,374	2,582,437	2,556,612	2,531,046	2,505,736	2,480,678	2,455,872	2,431,313	2,407,000	2,382,930
Subtotal	24,865,398	25,138,597	25,531,902	25,949,887	26,446,230	26,800,839	27,893,102	29,066,630	30,474,800	32,303,085
Operating Income	15,699,619	33,874,312	42,366,839	51,531,963	61,358,069	72,109,147	82,951,553	88,093,939	92,057,140	95,818,186
Other income (interest on cash)	201,030	575,557	1,079,378	1,592,009	2,083,281	2,582,657	3,171,516	3,783,194	4,331,373	5,510,221
Gain / (loss) on sale of computer equipment	-	-	305,100	-	-	152,550	-	-	76,275	-
Gain / (loss) on sale of office vehicles	-	-	-	-	1,061,683	-	-	-	-	-
Earnings Before Interest & Taxes	15,900,649	34,449,869	43,751,317	53,123,972	64,503,033	74,844,354	86,123,068	91,877,133	96,464,788	101,328,407
Earnings Before Tax	15,900,649	34,449,869	43,751,317	53,123,972	64,503,033	74,844,354	86,123,068	91,877,133	96,464,788	101,328,407
Tax	4,685,227	11,177,454	14,432,961	17,713,390	21,696,061	25,315,524	29,263,074	31,276,996	32,882,676	34,584,942
NET PROFIT/(LOSS) AFTER TAX	11,215,422	23,272,415	29,318,356	35,410,582	42,806,972	49,528,831	56,859,995	60,600,137	63,582,113	66,743,465

## 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	3,277,672	12,804,708	33,239,818	53,110,435	74,250,258	92,412,225	114,200,337	139,520,908	163,134,608	183,375,255	257,442,425
Finished goods inventory		6,773,137	6,625,571	7,494,653	8,433,460	9,446,376	10,538,074	11,713,528	12,146,780	12,702,376	13,286,118
Equipment spare part inventory	26,719	31,912	37,890	44,757	52,634	61,656	71,975	79,352	87,486	96,453	-
Raw material inventory	15,025,500	17,946,082	21,307,521	25,169,509	29,599,342	34,672,855	40,475,459	44,624,193	49,198,173	54,240,986	-
Pre-paid insurance	608,565	542,400	476,235	410,070	343,905	363,233	290,586	217,940	145,293	72,647	-
<b>Total Current Assets</b>	<b>18,938,456</b>	<b>38,098,238</b>	<b>61,687,034</b>	<b>86,229,424</b>	<b>112,679,600</b>	<b>136,956,345</b>	<b>165,576,430</b>	<b>196,155,921</b>	<b>224,712,341</b>	<b>250,487,717</b>	<b>270,728,543</b>
<i>Fixed assets</i>											
Land	6,400,000	6,400,000	6,400,000	6,400,000	6,400,000	6,400,000	6,400,000	6,400,000	6,400,000	6,400,000	6,400,000
Building/Infrastructure	53,244,650	50,582,418	47,920,185	45,257,953	42,595,720	39,933,488	37,271,255	34,609,023	31,946,790	29,284,558	26,622,325
Machinery & equipment	18,516,016	16,664,415	14,812,813	12,961,211	11,109,610	9,258,008	7,406,407	5,554,805	3,703,203	1,851,602	-
Furniture & fixtures	1,162,100	1,045,890	929,680	813,470	697,260	581,050	464,840	348,630	232,420	116,210	-
Office vehicles	2,654,207	2,123,366	1,592,524	1,061,683	530,841	4,274,627	3,419,702	2,564,776	1,709,851	854,925	-
Computer equipment	508,500	339,000	169,500	588,652	392,435	196,217	681,439	454,292	227,146	788,850	525,900
Office equipment	622,600	560,340	498,080	435,820	373,560	311,300	249,040	186,780	124,520	62,260	-
<b>Total Fixed Assets</b>	<b>83,108,074</b>	<b>77,715,428</b>	<b>72,322,783</b>	<b>67,518,789</b>	<b>62,099,426</b>	<b>60,954,690</b>	<b>55,892,682</b>	<b>50,118,306</b>	<b>44,343,930</b>	<b>39,358,405</b>	<b>33,548,226</b>
<i>Intangible assets</i>											
Pre-operation costs	3,709,000	2,967,200	2,225,400	1,483,600	741,800	-	-	-	-	-	-
<b>Total Intangible Assets</b>	<b>3,709,000</b>	<b>2,967,200</b>	<b>2,225,400</b>	<b>1,483,600</b>	<b>741,800</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL ASSETS</b>	<b>105,755,529</b>	<b>118,780,866</b>	<b>136,235,216</b>	<b>155,231,814</b>	<b>175,520,826</b>	<b>197,911,035</b>	<b>221,469,112</b>	<b>246,274,228</b>	<b>269,056,271</b>	<b>289,846,122</b>	<b>304,276,768</b>
<b>Liabilities &amp; Shareholders' Equity</b>											
<i>Current liabilities</i>											
Accounts payable		4,052,999	4,683,885	5,384,957	6,163,770	7,028,707	7,989,079	8,851,099	9,486,553	10,173,552	5,992,834
<b>Total Current Liabilities</b>	<b>-</b>	<b>4,052,999</b>	<b>4,683,885</b>	<b>5,384,957</b>	<b>6,163,770</b>	<b>7,028,707</b>	<b>7,989,079</b>	<b>8,851,099</b>	<b>9,486,553</b>	<b>10,173,552</b>	<b>5,992,834</b>
<i>Shareholders' equity</i>											
Paid-up capital	105,755,529	105,755,529	105,755,529	105,755,529	105,755,529	105,755,529	105,755,529	105,755,529	105,755,529	105,755,529	105,755,529
Retained earnings		8,972,338	25,795,802	44,091,327	63,601,527	85,126,799	107,724,504	131,667,599	153,814,188	173,917,041	192,528,405
<b>Total Equity</b>	<b>105,755,529</b>	<b>114,727,867</b>	<b>131,551,332</b>	<b>149,846,856</b>	<b>169,357,057</b>	<b>190,882,329</b>	<b>213,480,033</b>	<b>237,423,128</b>	<b>259,569,718</b>	<b>279,672,570</b>	<b>298,283,934</b>
<b>TOTAL CAPITAL AND LIABILITIES</b>	<b>105,755,529</b>	<b>118,780,866</b>	<b>136,235,216</b>	<b>155,231,814</b>	<b>175,520,826</b>	<b>197,911,035</b>	<b>221,469,112</b>	<b>246,274,228</b>	<b>269,056,271</b>	<b>289,846,122</b>	<b>304,276,768</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		11,215,422	23,272,415	29,318,356	35,410,582	42,806,972	49,528,831	56,859,995	60,600,137	63,582,113	66,743,465
Add: depreciation expense		5,392,646	5,392,646	5,392,646	5,419,363	5,419,363	5,743,447	5,774,376	5,774,376	5,774,376	5,810,180
amortization of pre-operating costs		741,800	741,800	741,800	741,800	741,800	-	-	-	-	-
Finished goods inventory		(6,773,137)	147,565	(869,082)	(938,806)	(1,012,916)	(1,091,698)	(1,175,455)	(433,252)	(555,596)	(583,741)
Equipment inventory	(26,719)	(5,193)	(5,977)	(6,867)	(7,877)	(9,022)	(10,318)	(7,377)	(8,134)	(8,967)	96,453
Raw material inventory	(15,025,500)	(2,920,582)	(3,361,439)	(3,861,988)	(4,429,834)	(5,073,512)	(5,802,604)	(4,148,735)	(4,573,980)	(5,042,813)	54,240,986
Advance insurance premium	(608,565)	66,165	66,165	66,165	66,165	(19,328)	72,647	72,647	72,647	72,647	72,647
Accounts payable		4,052,999	630,885	701,072	778,812	864,937	960,372	862,021	635,454	686,999	(4,180,718)
Cash provided by operations	(15,660,783)	11,770,120	26,884,060	31,482,101	37,040,205	43,718,294	49,400,676	58,237,471	62,067,248	64,508,758	122,199,271
<i>Financing activities</i>											
Issuance of shares	105,755,529	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	105,755,529	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(86,817,074)	-	-	(588,652)	-	(4,274,627)	(681,439)	-	-	(788,850)	-
Cash (used for) / provided by investing activities	(86,817,074)	-	-	(588,652)	-	(4,274,627)	(681,439)	-	-	(788,850)	-
<b>NET CASH</b>	<b>3,277,672</b>	<b>11,770,120</b>	<b>26,884,060</b>	<b>30,893,449</b>	<b>37,040,205</b>	<b>39,443,667</b>	<b>48,719,237</b>	<b>58,237,471</b>	<b>62,067,248</b>	<b>63,719,907</b>	<b>122,199,271</b>

## 13 KEY ASSUMPTIONS

### 13.1 Operating Cost Assumptions

Description	Details
Operating Costs Growth Rate	5.0%
Administration Benefits Expense	10.0% of Admin Expense
Traveling Expense	10.0% of Admin Expense
Communication Expense	5.0% of Admin Expense
Office Vehicles Running Expense	3.0% of Vehicles Cost
Office Expenses (Stationary, Entertainment, Janitorial Services, etc.)	10.0% of Admin Expense
Promotional Expense	2.0% of Revenue
Professional Fees (Legal, Audit, Consultants, etc.)	0.5% of Revenue
Bad Debt Expense	3.0% of Revenue
Depreciation Method	Straight Line
Machinery and Equipment Insurance Rate	3.0%
Office Vehicles Insurance Rate	2.0%

### 13.2 Production Cost Assumptions

Description	Details
Cost of Goods Sold Growth Rate	5.0%
Rice Paddy Cost	Rs.31,000 per Ton
Machinery Maintenance Cost	Rs. 75 per Ton
Packing Cost	Rs. 25 per Jute Bag
Transportation Cost	Rs. 800 per Ton

### 13.3 Revenue Assumptions

Description	Details
Processing Capacity (Husking)	10,500 tons per Year



Processing Capacity (Polishing)	18,000 tons per Year
Husking Price per ton	Rs. 1,990
Polishing Price per ton	Rs. 2,050
Sale Price Growth Rate	5%
Processing Capacity Utilization Year 1	60%
Processing Capacity Utilization Growth Rate	5%
Maximum Capacity Utilization	90%

# Small and Medium Enterprises Development Authority

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REGIONAL OFFICE PUNJAB	REGIONAL OFFICE SINDH	REGIONAL OFFICE KPK	REGIONAL OFFICE BALOCHISTAN
3 <sup>rd</sup> Floor, Building No. 3, Aiwan-e-Iqbal Complex, Egerton Road Lahore, Tel: (042) 111-111-456 Fax: (042) 36304926-7 <a href="mailto:helpdesk.punjab@smeda.org.pk">helpdesk.punjab@smeda.org.pk</a>	5 <sup>TH</sup> Floor, Bahria Complex II, M.T. Khan Road, Karachi. Tel: (021) 111-111-456 Fax: (021) 5610572 <a href="mailto:helpdesk-khi@smeda.org.pk">helpdesk-khi@smeda.org.pk</a>	Ground Floor State Life Building The Mall, Peshawar. Tel: (091) 9213046-47 Fax: (091) 286908 <a href="mailto:helpdesk-pew@smeda.org.pk">helpdesk-pew@smeda.org.pk</a>	Bungalow No. 15-A Chaman Housing Scheme Airport Road, Quetta. Tel: (081) 831623, 831702 Fax: (081) 831922 <a href="mailto:helpdesk-qta@smeda.org.pk">helpdesk-qta@smeda.org.pk</a>