



**Pre-feasibility Study**

# **RHODES GRASS (50 ACRES)**

**NOVEMBER 2023**

*“The figures and financial projections are approximate due to fluctuations in exchange rates, energy costs, and fuel prices etc. Users are advised to focus on understanding essential elements such as production processes and capacities, space, machinery, human resources, and raw material etc. requirements. Project investment, operating costs, and revenues can change daily. For accurate financial calculations, utilize financial calculators on SMEDA’s website and consult financial experts to stay current with market conditions”*

**Small and Medium Enterprises Development Authority**  
Ministry of Industries and Production  
Government of Pakistan

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## 1. DISCLAIMER

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### ***Document Control***

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## 2. EXECUTIVE SUMMARY

**Rhodes Grass Hay** farm is proposed to be located at irrigated agricultural lands of Baluchistan, KP, Punjab, and Sindh.

The project will be producing the **rhodes Grass Hay** with Installed Capacity of **560 tons** and full utilization [**560 tons, 100%**] on **50 Acres**.

Total Cost Estimates is [**Rs. 28,975,000**] with fixed investment [**Rs. 26,540,000**] With working capital [**Rs. 2,435,000**].

Given the cost assumptions IRR and payback are [**52%**] and [**2.2 years**] respectively.

The most critical considerations or factors for success of the project are:

- **Temperature:** Rhodes grass thrives in warm to hot climates. It is sensitive to frost, so ensure the temperature is suitable for its growth.
- **Rainfall:** Rhodes grass is relatively drought-tolerant but performs best in areas with a well-distributed annual rainfall of around 600-1,200 mm.
- **Soil Type:** It prefers well-drained soils with good fertility. Sandy loam to loamy soils is generally ideal, but it can adapt to various soil types.
- **Irrigation:** Rhodes grass responds well to irrigation, especially during dry periods. Adequate water supply is crucial for establishing and maintaining healthy stands.
- **Soil Testing:** Conduct soil tests to determine nutrient levels. Rhodes grass generally responds well to nitrogen, phosphorus, and potassium fertilizers.
- **Monitoring:** Regularly monitor the crop for signs of diseases and pests. Early detection and prompt action can help prevent widespread issues.
- **Timely Harvest:** Harvest at the right stage of maturity for optimal quality and yield.

### **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 Rhodes Grass 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

The rhodes grass is scientifically called *Chloris Gayana* and is originated from Africa. It is being grown mostly in tropical and other regions with suitable temperature. Rhodes grass is a robust drought-tolerant grass with a strong root system that enables it to spread quickly to form a good ground cover. This favorable characteristic combined with its ability to grow in a wide range of conditions, high palatability, ability to be utilized in many ways such as hay, cut-and-carry, grazing and its on-farm seed production qualities, makes it endear to many farmers.

One challenge with rhodes grass is its poor germination rate. Thus making seeds and planting important issues for a farmer to plan for maximum benefits for his farm. Fine cut rhodes grass is a type of variety that has originated from Katambora rhodes grass, which is a specie of African rhodes grass. It is a tufted, spreading, extremely palatable, and perennial grass, ideal choice for cultivation in tropical and subtropical regions. It can be utilized as green chop or hay because of its high protein value i.e 9-13%. Saline, salty, eroded soils or soils with high pH value can be reclaimed with the grass.

The fine cut rhodes grass is short duration crop because it gets ready in 30 to 35 days. Owing to its high leafiness and early harvesting, makes it the most ideal choice for farmers for their livestock and cattle. The rhodes grass is also used to cover uncultivated lands. It has good damage and drought tolerance, because of its deep root system (4-5 meters deep) that can easily fulfil its water requirement from ground water for its survival in such situation. The rhodes grass can be grown anywhere in the world with suitable climatic conditions such as temperature. Which is 30°C to 34°C. Modern irrigation methods are required for such grass. Seeds should be sown very shallow (0.5 to 1 cm deep) covered by light harrow or rolling, otherwise, If buried deep, it will affect the germination of the seeds.<sup>1</sup>

Fine cut rhodes grass have many qualities and superiorities over other types of the grasses e.g Pioneer, Top cut, Callide, and Katombora, which makes it ideal choice for hay growers. These qualities includes its ability to produce greater volume of fine leafs, plenty of dry matter and forage than other grasses, and its ability to produce the high quality with high yield. Furthermore, its high salt and alkaline tolerance makes it dual purpose crop. It grows even after reaching its maturity, therefore, it is an ideal choice for hay production.<sup>2</sup>

Good seed bed preparation is prerequisite for good germination and yield. It spread and stretch quickly over land so it need frequent watering, except, during germination phase. First cut of the grass will mature for harvesting after 50 days and subsequent cuts would be ready in 30-35 days. For ease of operations and better results, the grass must be cut 10 to 12 cm above the ground level so the grass could regrow quickly. An expected annual harvest of 08 – 10 tons per acre can be obtained with proper irrigation and care, or even more according to the experts, depends on the variety, climate etc. Fertilizer should be

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<sup>1</sup> Agriculture Department, Govt of Australia.

<sup>2</sup> Ibid

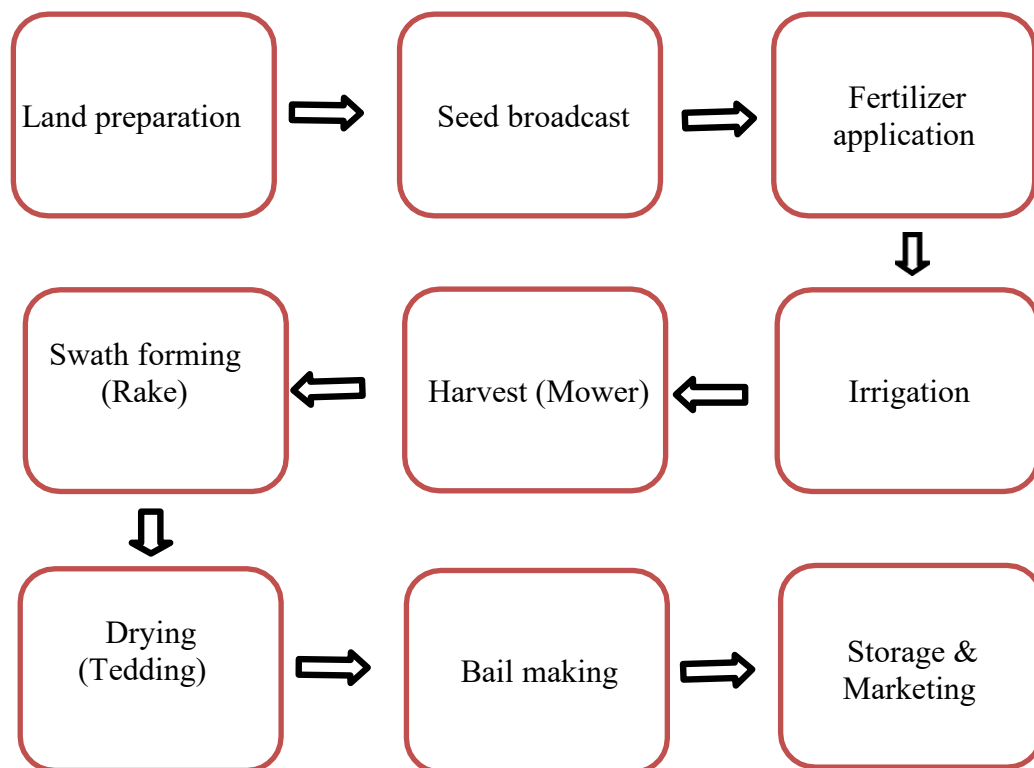
given at regular intervals and according to the requirement.<sup>3</sup>

Following key parameters must be addressed as per pre-feasibility study under preparation

- **Technology:** The farm will use the imported hybrid seeds of rhodes grass of Fine cut variety, and the imported harvesting machine.
- **Location:** The farming may be commenced on the irrigated agricultural lands of Baluchistan, Sindh, KP, and Punjab.
- **Product:** The farm will initially produce and market the rhodes grass/hay.
- **Target Market:** The local cattle feed wholesale/retail traders and dairy farmers, hay export market.
- **Employment Generation:** The proposed project will provide direct employment to 8 people.

Financial analysis shows the farm shall be profitable from the very first year of operation.

### 5.1. Production Process Flow



<sup>3</sup> Ibid

## **5.2. Land Preparation**

Land preparation holds immense importance in rhodes grass farming. Rhodes grass seeds are planted at shallow depth and requires even level for uniform growth so it's important to have leveled land. Laser leveler is preferred for such task because any water accumulation will affect the growth.

Good seedbed is must for good yield and successful business. A good prepared seedbed vary from a roughly disturbed soil with the help of tractor to kill weeds, to a fully prepared seedbed with capacity to hold moisture and nitrogen. Weeds should be controlled. The degree of seed bed preparation has very positive effect on the yield and business.

If sub soil moisture is good during the sowing it will result in improved pasture. Sub soil should be at least 40 cm moist from seed bed. However, light clay soil should have at least 50 cm moisture below.

## **5.3. Seed Broadcast and sowing**

Seeds could be sown by broadcasting/seed scattering method but in standing water. Ideally seed rate should be **8 to 10 Kg per acre**. The sowing may started from November to February.

## **5.4. Application of Fertilizer per Acre**

Apply 1 bag Nitrophos (NP) at the time of sowing as basal dose per acre. Di Ammonium Phosphate (DAP) should be avoided in soils having low pH so Nitrophos (NP) or Single Super Phosphate (SSP) should be preferred. Then 2 bags of urea or 100 Kg of urea per acre for good vegetative growth must be applied. Same amount of urea should be applied after every cut. It is good practice to spit urea in two doses i.e 50 Kg urea (1 Bag). Nitrogen fertilizer application before planting will release nitrogen for grasses to establish easily.

## **5.5. Harvesting**

Use the Mower for cutting and cut above 4 inches from the soil. First cut will be ready to harvest in 50 to 55 days, and the remaining cut will be ready in 25 to 32 days depending on soil type, fertility level and climatic conditions. The production can be obtained till 10 years.

## **5.6. Swath Forming**

The rake is used to form the swath by raking the grass into even swaths, light tossing of the mowed mass in swaths, covering, throwing and doubling the straw swaths.

## **5.7. Drying the Green Grass through Tedding Machine**

Maintaining moisture level is critical in rhodes grass business. 10% moisture should be maintained with the help of tedding machine. If bail is tied having more moisture, it will catch fungus and would resulted in loss. So, great care must be taken to ensure 10% moisture level with the help of tedding machine.



### 5.8. Bale Making

Bales are made out of the dried hay. The Baler pickups the straw swaths of natural and sow grass or straw, presses grass mass into rectangular or round bales and ties them with rope. Each bale must be 180 to 185 cm long and having weight from 170 Kg to 200 Kg depending upon buyer's choice.

A container can carry up to 40 bales with given dimensions. Total weight of container will be around 6.5 tons. Baling would be done by machine having steel fingers which binds it. The two types of bales are used i.e round bale or square bale.

Baling should occur only after drying the hay to the desired moisture level for storage to avoid the spoilage. Some products are available in the market to reduce the moisture level to the desired level. These products help to prevent molds and heating if hay is baled wet. These products are very useful especially in cases when rain is expected or occurs before the hay is dry enough to bale.

### 5.9. Storage & Marketing

The bales are stored and then supplied as per orders from the customers.

### 5.10. Installed and Operational Capacities

The farm land will be capable of producing maximum 560 tons of rhodes grass on 50 acres. The ratio of hay from green fodder to hay is 33%. The installed capacity of the farm will be **560 tons**. It can achieve the full operational capacity of **560 tons** i.g **100%** efficiency utilization from the very first year. This could be achieved easily if the soil has good fertility and seed bed is prepared accordingly.

## 5. CRITICAL FACTORS

The project should observe the following important factors:

#### 1. Climate and Soil Conditions:

**Temperature:** Rhodes grass thrives in warm to hot climates. It is sensitive to frost, so ensure the temperature is suitable for its growth.

**Rainfall:** Rhodes grass is relatively drought-tolerant but performs best in areas with a well-distributed annual rainfall of around 600-1,200 mm.

**Soil Type:** It prefers well-drained soils with good fertility. Sandy loam to loamy soils is generally ideal, but it can adapt to various soil types.

#### 2. Water Management:

**Irrigation:** Rhodes grass responds well to irrigation, especially during dry periods. Adequate water supply is crucial for establishing and maintaining healthy stands.

**Water Quality:** Ensure that the water used for irrigation is of good quality and does not

contain harmful salts or impurities that can affect plant health.

### 3. **Fertilization:**

**Soil Testing:** Conduct soil tests to determine nutrient levels. Rhodes grass generally responds well to nitrogen, phosphorus, and potassium fertilizers.

**Fertilizer Application:** Apply fertilizers based on soil test results and the specific needs of Rhodes grass at different growth stages.

### 4. **Weed Control:**

**Weed Competition:** Weeds can compete with Rhodes grass for nutrients, water, and sunlight. Implement effective weed control measures, including pre-emergence and post-emergence herbicides.

### 5. **Grazing Management:**

**Rotation Grazing:** If used for grazing, implement rotational grazing practices to prevent overgrazing and allow for regrowth.

**Rest Periods:** Allow sufficient rest periods for the grass to recover after grazing, ensuring a healthy stand.

### 6. **Disease and Pest Management:**

**Monitoring:** Regularly monitor the crop for signs of diseases and pests. Early detection and prompt action can help prevent widespread issues.

**Integrated Pest Management (IPM):** Implement IPM strategies to minimize the use of pesticides and maintain a balanced ecosystem.

### 7. **Harvesting Management:**

**Timely Harvest:** Harvest at the right stage of maturity for optimal quality and yield.

**Cutting Height:** When harvesting for hay, cut at an appropriate height to promote regrowth and maintain stand longevity.

### 8. **Variety Selection:**

**Adaptation:** Choose Rhodes grass varieties that are well-adapted to your specific climate and soil conditions.

**Quality:** Consider varieties that offer good forage quality and yield.

### 9. **Monitoring and Record-keeping:**

**Record Keeping:** Keep records of inputs, management practices, and performance to make informed decisions for future crop cycles.

**Monitoring:** Regularly monitor the growth, health, and condition of the Rhodes grass to address any issues promptly.

## 6. GEOGRAPHICAL POTENTIAL FOR INVESTMENT

All of the irrigated lands throughout the Baluchistan, KP, Sindh, and Baluchistan carry the potential for investment in this project. However, in case of Baluchistan, especial care must be taken that the farming is either done on large scale or nearest to the densely populated villages and towns with existence of dairy farms and irrigation facilities.

## 7. POTENTIAL TARGET CUSTOMERS / MARKETS

The domestic market of Pakistan in shape of dairy and livestock farmers is present. The livestock population having share of 62.68% in agriculture and is increasing at the rate of 3.78% per year and accordingly its feed requirements are also increasing. The area under various fodder crops in the country is estimated as 2,038 million Hectare. The livestock sector which constitutes almost 62 percent share in agriculture, posted a growth of 3.78 percent <sup>[4]</sup>

The target market of this scale fodder farm will be the domestic fodder wholesalers and retailers, the dairy farmers, and the exporters of Hay.

## 8. PROJECT COST SUMMARY

### 8.1. Project Economics

All the figures in this financial model have been calculated for estimated sales of **Rs. 28 million** in the year one. Production capacity of the proposed rhodes grass farm would be around 560 tons/50acres per anum. The farm can achieve 100% of capacity utilization to produce rhodes grass.

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

**Table 1: Project Economics**

Description	Details
Project Cost	28.975 million
Internal Rate of Return (IRR)	52%
Net Present Value (NPV) RS.	46,206,346
Payback Period	2.2 Years

<sup>4</sup> Economic Survey of Pakistan 2023

## 8.2. Project Financing

The model is worked out on the assumption that farmer would use utilize 100% equity and will not take bank loan. So the equity would be 100%.

**Table 2: Project Financing**

Description	Details
Total Equity (100%)	28,975,000

### 8.3. Project Cost

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

**Table 3: Project Cost**

Description	Amount Rs.
<b>Capital Cost</b>	
Machinery and Equipment	20,175,000
Office renovation	1,200,000
Furniture and Fixtures	415,000
Land for cultivation	2,250,000
Seeds (one time cost) 50 Acres	2,500,000
<b>Total Capital Costs</b>	<b>26,540,000</b>
<b>Working Capital</b>	
Utilities (3 months)	540,000
Salaries (3 months)	1,245,000
Office Rent (3 months)	300,000
Misc. Expense (@ 50,000 / month for 3 months)	350,000
<b>Total Working Capital</b>	<b>2,435,000</b>
<b>Total Project Cost</b>	<b>28,975,000</b>

### 8.4. Space Requirement

The grass will be cultivated on 50 acres of fertile land in areas as recommended earlier, which will be acquired on contract farming basis. Trading will be managed from production site or from rental office from Karachi. For this project, we have assumed the following lease/rental rates for agriculture land.

**Table 4: Space Requirement**

Description	Estimated Area (Sqft)	Rent Charges (Rs.) *	Yearly Rent (Rs.)
Office rent in urban area (monthly rent)	500	100,000	1,200,000
Land on contract farming (yearly rent)	50 Acres	45,000/acre	2,250,000
<b>Total Rent</b>			<b>3,450,000</b>

The land will be on ten years lease basis with an annual rent of **Rs. 2,250,000**

## 8.5. Machinery & Equipment Requirement

Machinery required for the production of the grass is available in local market but imported machinery having state-of-the-art functionality, reportedly gives good quality output. Following machinery will be required for setting up a fodder production and trading unit:

**Table 5: Machinery & Equipment**

Description	Quantity Required	Unit Cost (Rs.)	Total Cost (Rs.)
Tractor	01	7,000,000	7,000,000
Raker	01	1,100,000	1,100,000
Bailer	01	5,500,000	5,500,000
Liner	01	1,300,000	1,300,000
Cutter	01	500,000	500,000
ForkLift	01	3,000,000	3,000,000
Front end loader	01	575,000	575,000
Other Accessories	01	1,000,000	1,000,000
<b>Sub Total</b>			<b>19,975,000</b>
<b>Fire Fighting Equipment</b>			
Firefighting equipment	04	50,000	200,000
<b>Grand Total</b>			<b>20,175,000</b>

## 8.6. Furniture & Fixtures Requirement

A lump sum provision of Rs. 415,000/- for procurement of office/land furniture is assumed. This would include necessary items to be used by labor, such as, table, desk, chairs and stationery for office. The breakup of land and office furniture & fixtures is as follows:

**Table 6: Furniture & Fixture**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Table & Chair for Owner	01	75,000	<b>75,000</b>
Tables & Chairs for Staff	04	35,000	<b>140,000</b>
Waiting Chairs	08	15,000	<b>120,000</b>
Chairs for Workers/Labor	06	5,000	<b>30,000</b>

Electrical Fittings & Lights & Misc.	01	50,000	<b>50,000</b>
<b>Total</b>			<b>415,000</b>

### 8.7. Human Resource Requirement

Rhodes grass farming requires highly specialized and skilled labor. A total of 8 persons will be required to handle the production process, storage and trading operations. Skilled labor with relevant experience will be required for production and trading. Total approximate manpower requirement for the business operations along with the respective salaries are given in the table below:

**Table 7: Human Resource Requirement**

<b>Title/Designation</b>	<b>No of Persons</b>	<b>Individual Salary</b>	<b>Staff Salary Per Month</b>	<b>Staff Salary Per Annum</b>
<b>Production Staff</b>				
Manager/Owner	01	100,000	100,000	1,200,000
Supervisor /Forman	01	70,000	70,000	840,000
Machine Operator	03	40,000	120,000	1,440,000
Land Labor (Head Labor)	00	15,000	---	---
<b>Total Production Staff</b>	<b>05</b>	<b>143,000</b>	<b>164,000</b>	<b>3,480,000</b>
<b>General Administration/ Selling Staff</b>				
Accountant	01	50,000	50,000	600,000
Office Assistant	01	40,000	40,000	480,000
Guard	01	35,000	35,000	420,000
<b>Total G/A Staff</b>	<b>03</b>	<b>125,000</b>	<b>125,000</b>	<b>1,500,000</b>
<b>Grand Total</b>	<b>08</b>	<b>385,000</b>	<b>224,000</b>	<b>4,980,000</b>

### 8.8. Utilities and other costs

Rhodes grass farm will be operated by using diesel/petrol for machines. Water will be consumed for irrigation. The cost of the utilities including diesel/fuel, water, electricity and telephone is estimated to be around Rs. 2,160,000/- per annum. Approximate cost of utilities has been given as: for the production process seed, insecticides and pesticides and other required materials which are used periodically in order to sustain the quality of the fodder. It is recommended that seed should be sown after having considered the land fertility and soil type vis-à-vis water requirement and the seasonal production. Following raw material will be required for the cultivation of fodder

**Table 8: Cost of Material**

Description	Unit/Acre	Unit Cost	Cost per Cut/Acre
Seed (Kg)	10	5,000	---*
50 Kg Fertilizer Bag	02	3,700	7,400
50 Kg NP bag	01	8,150	8,150
Farmers Cost per Acre	01	600	600
Pesticide (Spray)	01	2,000	2,000
<b>Cost per Acre</b>			<b>18,150</b>
Cost per 50 Acre (first cut including seed cost)		3,407,500	
Cost per 50 Acre/cut (subsequently)		907,500	
Cost per 50 Acre per Season (8 cuts) **		7,260,000	

**Table 9: Utility Costs**

Utility	Total Monthly Cost (Rs.)	Total Annual Cost (Rs.)
Electricity (For office & Tube well)	70,000	840,000
Diesel for Tractor & Other Accessories	100,000	1,200,000
Water	5,000	60,000
Telephone	5,000	60,000
<b>Total</b>	<b>180,000</b>	<b>2,160,000</b>

\* One time seed would be used for sowing that could last for up to 10 years. Therefore, cost of seed is capitalized here.

\*\* excluding seed cost



## 8.9. Revenue Generation

Based on the capacity utilization of 100%, for **rhodes grass hay**, sales revenue during the first year of operations is estimated as under;

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

Description	No. of Units Produced (tons)	Units available for Sale (tons)	Sale Price / unit (Rs.)	Sales Revenue (Rs.)
Hay	560	560	50,000	28,000, 000
<b>Total</b>				<b>28,000, 000</b>

## 9. CONTACT DETAIL

In order to facilitate potential investors, contact details of private sector service providers relevant to the proposed project be given hereunder:

### 9.1. Machinery Supplier

<b>Name of Supplier /Organization</b>	New Chaudhary Agricultural Mechanical Engineers		
<b>Address</b>	A.T.M Chowk, Vehari Road, Multan.		
<b>Mobile</b>	0302-8737610	<b>Fax</b>	061-6354590
<b>E-mail</b>	<a href="mailto:info@newcame.com">info@newcame.com</a>		
<b>Website</b>	<a href="http://www.newcame.com">http://www.newcame.com</a>		

<b>Name of Supplier /Organization</b>	Agri-Pak		
<b>Address</b>	4 - Amber Palace, Main Shahra-e-Faisal, Adjacent to FTC Building, Karachi. Pakistan.		
<b>Phone</b>	021-34556285	<b>Fax</b>	021-34556288
<b>E-mail</b>	<a href="mailto:info@agripak.com.pk">info@agripak.com.pk</a>		
<b>Website</b>	<a href="http://www.agripak.com.pk">www.agripak.com.pk</a>		

**9.2. Technical Experts/Consultants**

<b>Name of Expert /Organization</b>	Engineer Mazhar Hussain/ Dero Farms
<b>Address</b>	Dero Farms, Near Mehran Sugar Mills, Tando Allahyar
<b>Mobile</b>	0300-8419234
<b>E-mail</b>	<a href="mailto:mazhar.engr17@gmail.com">mazhar.engr17@gmail.com</a>
<b>Name of Expert /Organization</b>	Mr. Abdul Waheed Shaikh/ Maxim International (Pvt).Ltd
<b>Address</b>	69-A, Sector XX, DHA Phase 3 Khayban-e-Iqbal Road, Lahore, Pakistan
<b>Mobile</b>	0300-2268694
<b>E-mail</b>	<a href="mailto:info@maxim-intl.com">info@maxim-intl.com</a>
<b>E-mail 2</b>	<a href="mailto:waheed.shaikh@yahoo.com">waheed.shaikh@yahoo.com</a>

**9.3. Raw Material Supplier**

<b>Name of Supplier /Organization</b>	Four Brothers Bio Traders		
<b>Address</b>	77-D/1, First floor Lahore center, main Boulevard Gulberg, Block D Gulberg III, Lahore, Punjab		
<b>Mobile</b>	0321-4480263		
<b>E-mail</b>	<a href="mailto:info@4bgroup.com">info@4bgroup.com</a>		
<b>Website</b>	<a href="http://www.4bgroup.com/">http://www.4bgroup.com/</a>		
<b>Name of Supplier /Organization</b>	Moringa Fodder Seeds		
<b>Address</b>	Office # 126, Latif Center, Main Ferozpur Road, Lahore.		
<b>Mobile</b>	0333-4120900	<b>Mobile</b>	0346-0049624

		<b>2</b>	
<b>E-mail</b>	<a href="mailto:info@herbyzone.com">info@herbyzone.com</a>		
<b>Website</b>	<a href="http://herbyzone.com/contact-us/">http://herbyzone.com/contact-us/</a>		
<b>Name of Supplier /Organization</b>	Farm Dynamic Pakistan		
<b>Address</b>	7-J1, Main Canal Bank Rd, Phase 2, Johar Town, Lahore		
<b>Phone</b>	042-35312301	<b>Mobile</b>	0300-0999592
<b>E-mail</b>	<a href="mailto:info@fdp.com.pk">info@fdp.com.pk</a>		
<b>Website</b>	<a href="https://fdp.com.pk">https://fdp.com.pk</a>		

## 10. 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>
Pakistan Horticulture Development and Export Company (PHDEC)	<a href="http://www.phdec.org.pk">www.phdec.org.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>
Livestock & Dairy Development Department, Government of Punjab.	<a href="http://www.livestockpunjab.gov.pk">www.livestockpunjab.gov.pk</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>

# 11. ANNEXURES

## 11.1. Income Statement

Rhodes Grass Production & Trading Business											
Projected Income Statement (Rs.)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Gross Revenue	28,000,000	33,880,000	40,994,800	49,603,708	60,020,487	72,624,789	87,875,995	106,329,953	128,659,244	155,677,685	
Sales on Credit	2,800,000	3,388,000	4,099,480	4,960,371	6,002,049	7,262,479	8,787,599	10,632,995	12,865,924	15,567,768	
Sales on Cash	25,200,000	30,492,000	36,895,320	44,643,337	54,018,438	65,362,310	79,088,395	95,696,958	115,793,319	140,109,916	
Bad Debt Expenses	56,000	67,760	81,990	99,207	120,041	145,250	175,752	212,660	257,318	311,355	
Net (Adjusted Sales)	27,944,000	33,812,240	40,912,810	49,504,501	59,900,446	72,479,539	87,700,243	106,117,293	128,401,925	155,366,329	
Cost of Sales	9,510,000	11,259,600	13,351,866	15,856,283	18,856,680	22,454,218	26,771,002	31,954,451	38,182,579	45,670,382	
Cultivation Cost	7,260,000	8,784,600	10,629,366	12,861,533	15,562,455	18,830,570	22,784,990	27,569,838	33,359,504	40,365,000	
Cultivation Land Rent	2,250,000	2,475,000	2,722,500	2,994,750	3,294,225	3,623,648	3,986,012	4,384,613	4,823,075	5,305,382	
		-	-	-	-	-	-	-	-	-	
Gross Profit	18,434,000	22,552,640	27,560,944	33,648,218	41,043,766	50,025,322	60,929,240	74,162,842	90,219,346	109,695,947	
Gross Profit Margin	66%	67%	67%	68%	69%	69%	69%	70%	70%	71%	
General Administrative & Selling Expenses											
Salaries	4,980,000	5,478,000	6,025,800	6,628,380	7,291,218	8,020,340	8,822,374	9,704,611	10,675,072	11,742,580	
Office Rent	1,200,000	1,320,000	1,452,000	1,597,200	1,756,920	1,932,612	2,125,873	2,338,461	2,572,307	2,829,537	
Amortization of Preliminary Expenses	500,000	500,000	500,000	500,000	500,000	-	-	-	-	-	
Depreciation Expense	2,179,000	1,961,100	1,764,990	1,588,491	1,429,642	1,292,678	1,163,410	1,047,069	942,362	848,126	
Maintenance Expense	605,250	605,250	605,250	605,250	605,250	605,250	605,250	605,250	605,250	605,250	
Selling & Distribution	1,397,200	1,690,612	2,045,641	2,475,225	2,995,022	3,623,977	4,385,012	5,305,865	6,420,096	7,768,316	
Subtotal	10,861,450	11,554,962	12,393,681	13,394,546	14,578,052	15,474,856	17,101,919	19,001,255	21,215,087	23,793,809	
Operating Income	7,572,550	10,997,678	15,167,264	20,253,672	26,465,714	34,550,465	43,827,321	55,161,587	69,004,259	85,902,138	
Earnings Before Taxes	7,572,550	10,997,678	15,167,264	20,253,672	26,465,714	34,550,465	43,827,321	55,161,587	69,004,259	85,902,138	
Tax	1,514,510	2,199,536	3,033,453	4,050,734	5,293,143	6,910,093	8,765,464	11,032,317	13,800,852	17,180,428	
Net Profit	6,058,040	8,798,142	12,133,811	16,202,937	21,172,571	27,640,372	35,061,857	44,129,269	55,203,407	68,721,711	
Monthly Profit After Tax	504,836.67	733,179	1,011,151	1,350,245	1,764,381	2,303,364	2,921,821	3,677,439	4,600,284	5,726,809	

## 11.2. Balance Sheet

Rhodes Grass Production & Trading Business											
Projected Balance Sheet (Rs.)	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>											
<b>Current Assets</b>											
Cash & Bank Balance	2,435,000	10,938,707	22,148,949	36,488,460	54,708,148	77,663,554	106,491,568	142,589,742	187,612,297	243,571,989	312,856,672
Accounts Receivable	0	233,333	282,333	341,623	413,364	500,171	605,207	732,300	886,083	1,072,160	1,297,314
<b>Total Current Assets</b>	<b>2,435,000</b>	<b>11,172,040</b>	<b>22,431,282</b>	<b>36,830,084</b>	<b>55,121,512</b>	<b>78,163,725</b>	<b>107,096,775</b>	<b>143,322,041</b>	<b>188,498,380</b>	<b>244,644,149</b>	<b>314,153,986</b>
<b>Fixed Assets</b>											
Plant Machinery & Facility	20,175,000	18,157,500	16,341,750	14,707,575	13,236,818	11,913,136	10,721,822	9,649,640	8,684,676	7,816,208	7,034,588
Factory Construction	1,200,000	1,080,000	972,000	874,800	787,320	768,588	691,729	622,556	560,301	504,271	513,844
Land	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000
Furniture & Fixtures	415,000	373,500	336,150	302,535	272,282	245,053	220,548	198,493	178,644	160,780	144,702
Vehicle	0	0	0	0	0	0	0	0	0	0	0
<b>Total Fixed Assets</b>	<b>24,040,000</b>	<b>21,861,000</b>	<b>19,899,900</b>	<b>18,134,910</b>	<b>16,546,419</b>	<b>15,176,777</b>	<b>13,884,099</b>	<b>12,720,689</b>	<b>11,673,621</b>	<b>10,731,258</b>	<b>9,943,133</b>
<b>Intangible Assets</b>											
Preliminary Expenses	2,500,000	2,000,000	1,500,000	1,000,000	500,000	-	-	-	-	-	-
<b>Total Assets</b>	<b>28,975,000</b>	<b>35,033,040</b>	<b>43,831,182</b>	<b>55,964,994</b>	<b>72,167,931</b>	<b>93,340,502</b>	<b>120,980,874</b>	<b>156,042,731</b>	<b>200,172,000</b>	<b>255,375,408</b>	<b>324,097,118</b>
<b>Owner's Equity</b>	<b>28,975,000</b>	<b>35,033,040</b>	<b>43,831,182</b>	<b>55,964,994</b>	<b>72,167,931</b>	<b>93,340,502</b>	<b>120,980,874</b>	<b>156,042,731</b>	<b>200,172,000</b>	<b>255,375,408</b>	<b>324,097,118</b>
<b>Total Equity &amp; Liabilities</b>	<b>28,975,000</b>	<b>35,033,040</b>	<b>43,831,182</b>	<b>55,964,994</b>	<b>72,167,931</b>	<b>93,340,502</b>	<b>120,980,874</b>	<b>156,042,731</b>	<b>200,172,000</b>	<b>255,375,408</b>	<b>324,097,118</b>

## 11.3.Cash Flow Statement

Rhodes Grass Production & Trading Business											
Projected Statement of Cash Flows (Rs.)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Cash Flow From Operating Activities</b>											
Net Profit	0	6,058,040	8,798,142	12,133,811	16,202,937	21,172,571	27,640,372	35,061,857	44,129,269	55,203,407	68,721,711
Add: Depreciation Expense	0	2,179,000	1,961,100	1,764,990	1,588,491	1,429,642	1,292,678	1,163,410	1,047,069	942,362	848,126
Amortization Expense	0	500,000	500,000	500,000	500,000	500,000	-	-	-	-	-
(Increase) / decrease in Receivables	-	(233,333)	(49,000)	(59,290)	(71,741)	(86,806)	(105,036)	(127,093)	(153,783)	(186,077)	(225,154)
<b>Net Cash Flow From Operations</b>	<b>0</b>	<b>8,503,707</b>	<b>11,210,242</b>	<b>14,339,511</b>	<b>18,219,687</b>	<b>23,015,406</b>	<b>28,828,014</b>	<b>36,098,174</b>	<b>45,022,555</b>	<b>55,959,692</b>	<b>69,344,683</b>
<b>Cash Flow From Financing Activities</b>											
Receipt of Long Term Debt	0										
Repayment of Long Term Debt		0	0	0	0	0	-	-	-	-	-
Owner's Equity	28,975,000										
<b>Net Cash Flow From Financing Activities</b>	<b>28,975,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Cash Flow From Investing Activities</b>											
Capital Expenditure	(20,175,000)					(60,000)					(60,000)
Factory/Office Furniture	(415,000)										
Preliminary Operating Expenses	(2,500,000)										
Office Renovation Cost	(1,200,000)										
Land for Cultivation	(2,250,000)										
<b>Net Cash Flow From Investing Activities</b>	<b>(26,540,000)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>(60,000)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>(60,000)</b>
<b>NET CASH FLOW</b>	<b>2,435,000</b>	<b>8,503,707</b>	<b>11,210,242</b>	<b>14,339,511</b>	<b>18,219,687</b>	<b>22,955,406</b>	<b>28,828,014</b>	<b>36,098,174</b>	<b>45,022,555</b>	<b>55,959,692</b>	<b>69,284,683</b>
<b>Cash at the Beginning of the Period</b>	<b>0</b>	<b>2,435,000</b>	<b>10,938,707</b>	<b>22,148,949</b>	<b>36,488,460</b>	<b>54,708,148</b>	<b>77,663,554</b>	<b>106,491,568</b>	<b>142,589,742</b>	<b>187,612,297</b>	<b>243,571,989</b>
<b>Cash at the End of the Period</b>	<b>2,435,000</b>	<b>10,938,707</b>	<b>22,148,949</b>	<b>36,488,460</b>	<b>54,708,148</b>	<b>77,663,554</b>	<b>106,491,568</b>	<b>142,589,742</b>	<b>187,612,297</b>	<b>243,571,989</b>	<b>312,856,672</b>

## 12. KEY ASSUMPTIONS

### 12.1. Operating Cost Assumptions

Description	Details
Hours Operational Per Day	12
Days Operational Per Month	30
Days Operational Per Year	360
Operating Cost Growth Rate	10%

### 13.2 Production Cost Assumptions

Description	Details
COGS Annual Growth Rate	10%

### 13.3 Revenue Assumptions

Description	Details
Sales Price Growth Rate	10%
Maximum Capacity Utilization	100%
Initial Capacity Utilization	100%

### 13.4 Economy Related Assumptions

Description	Details
Inflation Rate	10%
Electricity Price Growth Rate	10%
Wage Growth Rate	10%



## Small and Medium Enterprises Development Authority

### HEAD OFFICE

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Tel: (92 42) 111 111 456, Fax: (92 42) 36304926-7

[www.smeda.org.pk](http://www.smeda.org.pk), [helpdesk@smeda.org.pk](mailto:helpdesk@smeda.org.pk)

REGIONAL OFFICE PUNJAB	REGIONAL OFFICE SINDH	REGIONAL OFFICE KPK	REGIONAL OFFICE BALUCHISTAN
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>