

PROJECT REPORT

OF

AMRANTHUS PROCESSING UNIT

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Amranthas Processing Unit.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]



SAMADHAN

Nurturing Dreams - Innovative Solutions

Lucknow Office: Sidhivinayak
Building , 27/1/B, Gokhley Marg, Lucknow-226001

Delhi Office: Multi-Disciplinary Training
Centre, Gandhi Darshan Rajghat, New Delhi 110002

Email: info@udyami.org.in
Contact: +91 7526000333, 444, 555

PROJECT AT GLANCE

1 Name of Proprietor/Director	XXXXXXXXXX
2 Firm Name	XXXXXXXXXX
3 Registered Address	XXXXXXXXXX
4 Nature of Activity	XXXXXXXXXX
5 Category of Applicant	XXXXXXXXXX
6 Location of Unit	XXXXXXXXXX
7 Cost of Project	24.03 Rs. In Lakhs
8 Means of Finance	
i) Own Contribution	2.40 Rs. In Lakhs
ii) Term Loan	14.63 Rs. In Lakhs
iii) Working Capital	7.00 Rs. In Lakhs
9 Debt Service Coverage Ratio	3.42
10 Break Even Point	0.25
11 Power Requirement	15 KW
12 Employment	9 to 10 Persons
13 Major Raw Materials	Harvested amaranths seed & Packaging material
14 Details of Cost of Project & Means of Finance	

Cost of Project

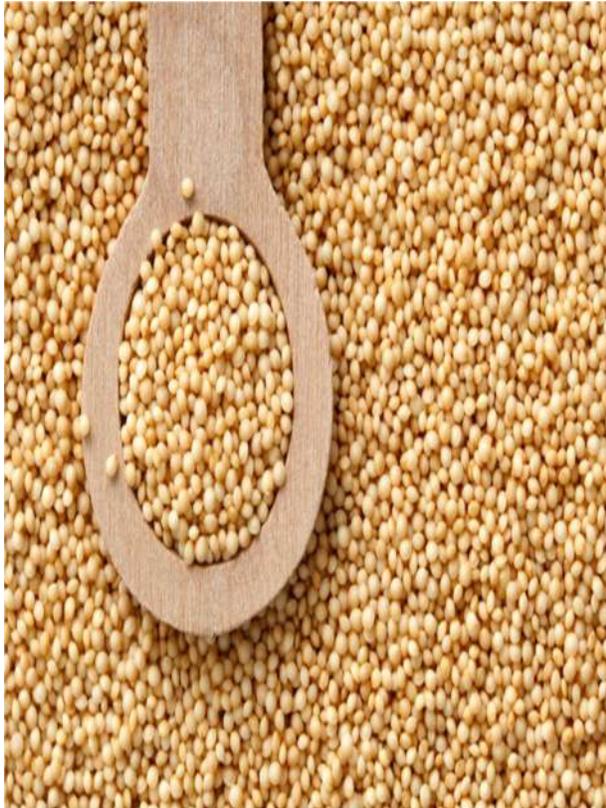
Particulars	Amount in Lacs
Land	Owned/Leased
Building & Civil Work	Owned/Leased
Plant & Machinery	15.50
Furniture & Fixture	0.25
Other Misc Assets	0.50
Working Capital Requirement	7.78
Total	24.03

Means of Finance

Particulars	Amount in Lacs
Own Contribution	2.40
Term Loan	14.63
Working capital Loan	7.00
Total	24.03

1. INTRODUCTION

Amaranth in Hindi is known as Rajgira. Simply put, Rajgira means raj (royal) & gira (grain). As a matter of fact, amaranth grain meaning in Gujarati is also Rajgira. Moreover, amaranth grain in India is also known as 'Ramdana', meaning God's own grain.



Amaranthus is a genus (family Amaranthaceae) consisting of more than 50 species and is a pseudocereal that was domesticated in America over 4000 years ago by the Aztecs and Mayas. The importance of amaranth has resurged in the last years due to agricultural features, since it is a fast-growing cultivar with tolerance to drought conditions, can grow in poor soils, and has important nutritional properties. Moreover, it has minerals, such as calcium, sodium, iron, magnesium, and vitamin E. Polyphenolic compounds, such as phenolic acids and flavonoids, which have been characterized in amaranth grains, which makes it an excellent source of bioactive compounds. Typically, amaranth grain is not eaten raw and suffers a variety of processing methods in order to achieve desired flavor, color, texture, and, sometimes, nutritional

and nutraceutical properties. The different processing methods considered in this chapter such as cooking in water, toasting, fermentation, germination, or extrusion affect the nutritional and nutraceutical characteristics that have beneficial effects on human health. The health benefits of amaranth come from nutrients and, in part, through the antioxidant characteristic of the phenolic compounds present in the grain, so that changes and variation in the composition and concentration of Nutrients and non-nutrient could indicate the type of amaranth grain processing that can preserve its nutritional and nutraceutical characteristics.

2. PRODUCT DESCRIPTION

2.1 PRODUCT USES

- There are various ways to use amaranth as a part of the daily diet:
- Boil whole amaranth grains can be used to make porridge.
- Pop dried amaranth can be used as popcorn and it is eaten as a snack.
- Popped amaranth can be also used as salads or in soups.
- Amaranth oil can be used in dietary supplements and cosmetics.
- Amaranth seed also can be used as flaked, extruded, and ground flour .

2.2 RAW MATERIAL REQUIREMENT

- Harvested amaranths seed
- Packaging material

2.3 MANUFACTURING PROCESS

Harvesting

Harvesting is very important in the processing because the right stage of amaranths harvesting play an important role. Since amaranth grain shutters quickly, it is best to harvest the crop as soon as the panicle/head colour changes from green to golden brown and seeds fall on the light

shaking of the vine. To avoid seed failure, cut off the heads and place them in a jar like a gunny bag or a bucket it detaches from the stem and falls into the container.

Threshing and storage of grains

Place the panicles on a clean polythene sheet to dry. These panicles after proper drying are threshed using a thresher machine. After threshing, these grains are properly dried in sunlight or an air dryer machine the correct moisture content for storing grain amaranth is 11-13%.

Grain delivery:

The grain is supplied by covered trucks to factories. The distance travelled by the grain varies tremendously. After arriving at the mill, grain stocks will often have gone through a variety of accumulation processes (farmer, country elevator, terminal elevator, etc.).The number of conveyances carrying grain can vary based on the time of harvesting and delivery.

Cleaning of seed

Amaranths Seed cleaning for removal of extraneous material like stones, mud, etc.

De-stoning:

The aim of this process is that removes stones and other particles impurities from the amaranths seed.

Magnetic separation:

The amaranths seeds first pass by a magnetic separator that removes ferrous metal particles. It is also necessary to ensure that no metal pieces are in the finished product.

Gravity separation

The gravity separator separates products of same size but with difference in specific weight.

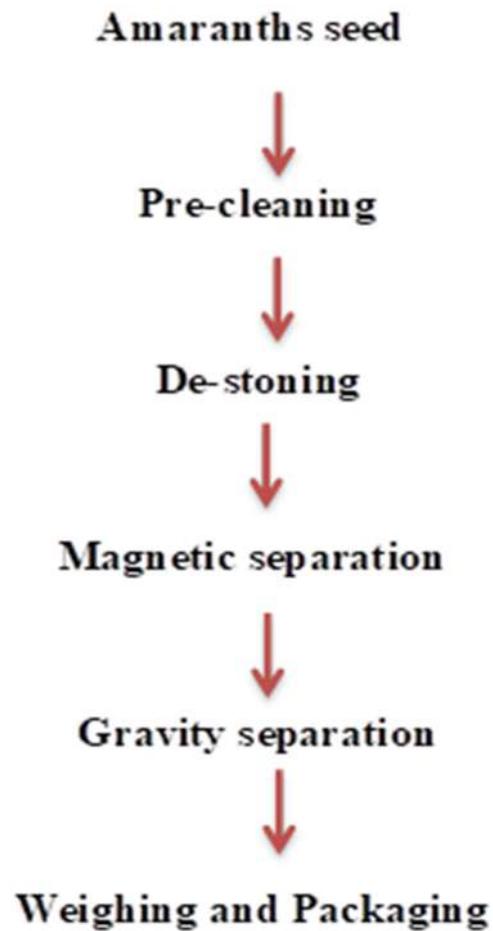
Seed grading

As it is small grain bus also it is a value additional optional process to obtain uniform size seed.

Weighing Packaging

The packaging is done in a simple manner: the amaranth seed are fed into the packaging machine's holding tank, which then weighs and fills the amaranth seed into the appropriate packages. It simply fills the sacs to the desired weight and sews the other end.

Flow chart



3. PROJECT COMPONENTS

3.1 Land /Civil Work

We have not considered the cost of Land purchase & Building Civil work in the project. It is assumed that land & building will be on rent & approx. rental of the same will be Rs. 30,000-40,000 per month.

3.2 Plant & Machinery

Seed Cleaning Machine: This machine is used for the pre cleaning process of arrived Amaranths seed.



Seed Destoner Machine: This machine's aim is to remove stones and other mud material from the given grains.



- **Magnetic Separator:** It's a type of separator which is used to magnetic impurities from given product using powerful electromagnets, used in wide range of industries for separation.



- **Gravity separator:** The gravity separator is used to separate any type of kernel or granular product that is nearly identical in size but differs in weight.



- **Packaging machine:** A machine for automated weighing and packaging supports the exact weighing and packaging of Amaranths seed. The machine weighs and fills the products with precise measures.



Equipment and Tools-

Tools and Equipment-

- **Unloading Bins** These are large bins designed for unloading of grains & similar product; they are equipped with large rod mess to prevent big impurities from entering system.



- **Silos:** This Equipment is class of storage Equipment which are specifically designed for dry grain raw material of small granule composition. Usually used to store grains but can also be used to store cement & aggregate.



- **Bucket Elevator:** A bucket lift is also a grain leg and is a device for vertical transport, often grain materials.



- **Food Grade Conveyor:** These are conveyors with food grade belt to maintain food safety standards set by monitoring authorities.



4. LICENSE & APPROVALS

Basic License & Approvals required in this project:

- GST Registration
- Udyam Registration
- FSSAI Licesne
- Choice of a Brand Name of the product and secure the name with Trademark if require.

PROJECTED BALANCE SHEET**(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>Liabilities</u>					
Capital					
Opening Balance		4.96	7.96	11.30	15.75
Add:- Own Capital	2.40				
Add:- Retained Profit	5.06	7.50	9.84	12.95	15.27
Less:- Drawings	2.50	4.50	6.50	8.50	10.00
Closing Balance	4.96	7.96	11.30	15.75	21.02
Term Loan	13.00	9.75	6.50	3.25	-
Working Capital Limit	7.00	7.00	7.00	7.00	7.00
Sundry Creditors	3.28	3.86	4.47	5.11	5.79
Provisions & Other Liabilities	0.50	1.00	1.20	1.44	1.80
TOTAL :	28.73	29.56	30.47	32.55	35.62
<u>Assets</u>					
Fixed Assets (Gross)	16.25	16.25	16.25	16.25	16.25
Gross Depreciation	2.43	4.49	6.24	7.73	9.00
Net Fixed Assets	13.83	11.76	10.01	8.52	7.25
Current Assets					
Sundry Debtors	3.19	3.93	4.56	5.22	5.92
Stock in Hand	8.06	9.75	11.31	12.94	14.67
Cash and Bank	1.15	2.62	3.35	3.87	2.78
Loans and advances/other current assets	2.50	1.50	1.25	2.00	5.00
TOTAL :	28.73	29.56	30.47	32.55	35.62

PROJECTED PROFITABILITY STATEMENT					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	35%	40%	45%	50%	55%
SALES					
AMRANTHUS SEED	95.76	117.91	136.73	156.57	177.47
Total	95.76	117.91	136.73	156.57	177.47
COST OF SALES					
Raw material cost	65.52	77.13	89.38	102.29	115.89
Electricity Expenses	0.88	1.06	1.19	1.32	1.46
Depreciation	2.43	2.06	1.75	1.49	1.27
Wages & labour	8.88	9.77	10.74	11.82	12.41
Repair & maintenance	1.92	2.36	2.73	1.57	1.77
Consumables	1.92	2.36	2.73	3.13	3.55
Packaging cost	2.87	3.54	4.10	4.70	5.32
Cost of Processing	84.41	98.27	112.64	126.32	141.67
Add: Opening Stock	-	4.79	5.90	6.84	7.83
Less: Closing Stock	4.79	5.90	6.84	7.83	8.87
Cost of Sales	79.62	97.16	111.70	125.33	140.63
GROSS PROFIT	16.14	20.75	25.03	31.24	36.84
	16.85%	17.60%	18.31%	19.95%	20.76%
Salary to Staff	3.36	4.03	4.84	5.81	6.68
Interest on Term Loan	1.44	1.27	0.91	0.55	0.19
Interest on working Capital	0.77	0.77	0.77	0.77	0.77
Rent	3.60	3.96	4.36	4.79	5.27
Selling & Administration Expenses	1.92	2.95	3.42	4.70	5.32
TOTAL	11.08	12.98	14.29	16.62	18.24
NET PROFIT	5.06	7.78	10.74	14.62	18.61
Taxation		0.28	0.90	1.67	3.33
PROFIT (After Tax)	5.06	7.50	9.84	12.95	15.27
	5.28%	6.36%	7.20%	8.27%	8.61%

PROJECTED CASH FLOW STATEMENT					(in Lacs)
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
<u>SOURCES OF FUND</u>					
Own Margin	2.40				
Net Profit	5.06	7.78	10.74	14.62	18.61
Depriciation & Exp. W/off	2.43	2.06	1.75	1.49	1.27
Increase in Cash Credit	7.00	-	-	-	-
Increase In Term Loan	14.63	-	-	-	-
Increase in Creditors	3.28	0.58	0.61	0.65	0.68
Increase in Provisions & Other liabilities	0.50	0.50	0.20	0.24	0.36
TOTAL :	35.28	10.92	13.31	17.00	20.92
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	16.25				
Increase in Stock	8.06	1.69	1.55	1.64	1.72
Increase in Debtors	3.19	0.74	0.63	0.66	0.70
Increase in loans and advances	2.50 -	1.00 -	0.25	0.75	3.00
Repayment of Term Loan	1.63	3.25	3.25	3.25	3.25
Drawings	2.50	4.50	6.50	8.50	10.00
Taxation	-	0.28	0.90	1.67	3.33
TOTAL :	34.13	9.45	12.58	16.47	22.00
Opening Cash & Bank Balance	-	1.15	2.62	3.35	3.87
Add : Surplus	1.15	1.47	0.73	0.53	-1.09
Closing Cash & Bank Balance	1.15	2.62	3.35	3.87	2.78

CALCULATION OF D.S.C.R					
PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	7.48	9.56	11.60	14.44	16.54
Interest on Term Loan	1.44	1.27	0.91	0.55	0.19
Total	8.92	10.83	12.50	14.99	16.74
REPAYMENT					
Instalment of Term Loan	1.63	3.25	3.25	3.25	3.25
Interest on Term Loan	1.44	1.27	0.91	0.55	0.19
Total	3.06	4.52	4.16	3.80	3.44
DEBT SERVICE COVERAGE RATIO	2.91	2.40	3.01	3.94	4.86
AVERAGE D.S.C.R.	3.42				

REPAYMENT SCHEDULE OF TERM LOAN							
					Interest	11.00%	
Year	Particulars	Amount	Addition	Total	Interest	Repayment	Closing Balance
1st	Opening Balance	-					
	1st month		14.63	14.63	-	-	14.63
	2nd month	14.63	-	14.63	0.13	-	14.63
	3rd month	14.63	-	14.63	0.13	-	14.63
	4th month	14.63	-	14.63	0.13	-	14.63
	5th month	14.63	-	14.63	0.13	-	14.63
	6th month	14.63	-	14.63	0.13	-	14.63
	7th month	14.63	-	14.63	0.13	0.27	14.35
	8th month	14.35	-	14.35	0.13	0.27	14.08
	9th month	14.08	-	14.08	0.13	0.27	13.81
	10th month	13.81	-	13.81	0.13	0.27	13.54
	11th month	13.54	-	13.54	0.12	0.27	13.27
	12th month	13.27	-	13.27	0.12	0.27	13.00
					1.44	1.63	
2nd	Opening Balance						
	1st month	13.00	-	13.00	0.12	0.27	12.73
	2nd month	12.73	-	12.73	0.12	0.27	12.46
	3rd month	12.46	-	12.46	0.11	0.27	12.19
	4th month	12.19	-	12.19	0.11	0.27	11.92
	5th month	11.92	-	11.92	0.11	0.27	11.65
	6th month	11.65	-	11.65	0.11	0.27	11.38
	7th month	11.38	-	11.38	0.10	0.27	11.10
	8th month	11.10	-	11.10	0.10	0.27	10.83
	9th month	10.83	-	10.83	0.10	0.27	10.56
	10th month	10.56	-	10.56	0.10	0.27	10.29
	11th month	10.29	-	10.29	0.09	0.27	10.02
	12th month	10.02	-	10.02	0.09	0.27	9.75
					1.27	3.25	
3rd	Opening Balance						
	1st month	9.75	-	9.75	0.09	0.27	9.48
	2nd month	9.48	-	9.48	0.09	0.27	9.21
	3rd month	9.21	-	9.21	0.08	0.27	8.94
	4th month	8.94	-	8.94	0.08	0.27	8.67
	5th month	8.67	-	8.67	0.08	0.27	8.40
	6th month	8.40	-	8.40	0.08	0.27	8.12
	7th month	8.12	-	8.12	0.07	0.27	7.85
	8th month	7.85	-	7.85	0.07	0.27	7.58
	9th month	7.58	-	7.58	0.07	0.27	7.31
	10th month	7.31	-	7.31	0.07	0.27	7.04
	11th month	7.04	-	7.04	0.06	0.27	6.77
	12th month	6.77	-	6.77	0.06	0.27	6.50
					0.91	3.25	

4th	Opening Balance						
	1st month	6.50	-	6.50	0.06	0.27	6.23
	2nd month	6.23	-	6.23	0.06	0.27	5.96
	3rd month	5.96	-	5.96	0.05	0.27	5.69
	4th month	5.69	-	5.69	0.05	0.27	5.42
	5th month	5.42	-	5.42	0.05	0.27	5.15
	6th month	5.15	-	5.15	0.05	0.27	4.87
	7th month	4.87	-	4.87	0.04	0.27	4.60
	8th month	4.60	-	4.60	0.04	0.27	4.33
	9th month	4.33	-	4.33	0.04	0.27	4.06
	10th month	4.06	-	4.06	0.04	0.27	3.79
	11th month	3.79	-	3.79	0.03	0.27	3.52
	12th month	3.52	-	3.52	0.03	0.27	3.25
					0.55	3.25	
5th	Opening Balance						
	1st month	3.25	-	3.25	0.03	0.27	2.98
	2nd month	2.98	-	2.98	0.03	0.27	2.71
	3rd month	2.71	-	2.71	0.02	0.27	2.44
	4th month	2.44	-	2.44	0.02	0.27	2.17
	5th month	2.17	-	2.17	0.02	0.27	1.90
	6th month	1.90	-	1.90	0.02	0.27	1.62
	7th month	1.62	-	1.62	0.01	0.27	1.35
	8th month	1.35	-	1.35	0.01	0.27	1.08
	9th month	1.08	-	1.08	0.01	0.27	0.81
	10th month	0.81	-	0.81	0.01	0.27	0.54
	11th month	0.54	-	0.54	0.00	0.27	0.27
	12th month	0.27	-	0.27	0.00	0.27	-
					0.19	3.25	
	DOOR TO DOOR	60	MONTHS				
	MORATORIUM PERIOD	6	MONTHS				
	REPAYMENT PERIOD	54	MONTHS				

DISCLAIMER

The views expressed in this Project Report are advisory in nature. SAMADHAN assume no financial liability to anyone using the content for any purpose. All the materials and content contained in Project report is for educational purpose and reflect the views of the industry which are drawn from various research material sources from internet, experts, suppliers and various other sources. The actual cost of the project or industry will have to be taken on case to case basis considering specific requirement of the project, capacity and type of plant and other specific factors/cost directly related to the implementation of project. It is intended for general guidance only and must not be considered a substitute for a competent legal advice provided by a licensed industry professional. SAMADHAN hereby disclaims any and all liability to any party for any direct, indirect, implied, punitive, special, incidental or other consequential damages arising directly or indirectly from any use of the Project Report Content, which is provided as is, and without warranties.