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PROJECT REPORT

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PROJECT:

Ragi Flour Mill

PROJECT REPORT
OF

RAGI FLOUR MILL

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Ragi Flour Mill.

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.]

PROJECT AT GLANCE

1	**Name of Proprietor/Director**	XXXXXXXX	
2	**Firm Name**	XXXXXXXX	
3	**Registered Address**	XXXXXXXX	
4	**Nature of Activity**	XXXXXXXX	
5	**Category of Applicant**	XXXXXXXX	
6	**Location of Unit**	XXXXXXXX	
7	**Cost of Project**	39.33	Rs. In Lakhs
8	**Means of Finance**		
i)	**Own Contribution**	3.93	Rs. In Lakhs
ii)	**Term Loan**	27.90	Rs. In Lakhs
iii)	**Working Capital**	7.50	Rs. In Lakhs
9	**Debt Service Coverage Ratio**	2.38	
10	**Break Even Point**	34%	
11	**Power Requirement**	20	KW
12	**Employment**	9	Persons
13	**Details of Cost of Project & Means of Finance**		

COST OF PROJECT	
	(in Lacs)
PARTICULARS	**Amount**
Land & Building	Owned/Rented
Plant & Machinery	30.00
Furniture & Fixture	1.00
Working capital Required	8.33
Total	**39.33**

MEANS OF FINANCE	
	(in Lacs)
PARTICULARS	**Amount**
Own Contribution @ 10%	3.93
Term Loan @ 90%	27.90
Working Capital (Bank Finance)	7.50
Total	**39.33**

RAGI FLOUR MILL

1. INTRODUCTION

Eleusine coracana, or finger millet, is an annual herbaceous plant widely grown as a cereal crop in the arid and semiarid areas in Africa and Asia. It is commonly called kodo in Nepal where 877 accessions have been maintained by National Plant Genetic Resource Centre, Khumaltar, Nepal. It is a tetraploid and self-pollinating species probably evolved from its wild relative Eleusine Africana.

There are ten species under the genus Eleusine Gaertn, seven diploid (2n=16, 18 and 20) and three tetraploid taxa (2n=36 or 38). Eleusine africana (Kenn.-O'Bryne), Eleusine coracana (L.) Gaertn, Eleusine floccifolia (Spreng), Eleusine indica (L.) Gaertn, Eleusine intermedia (Chiov.) (S.M.Phillips), Eleusine jaegeri (Pilg.), Eleusine kigeziensis (S.M.Phillips), Eleusine multiflora (Hochst. ex A.Rich), Eleusine semisterilis (S.M.Phillips) and Eleusine tristachya (Lam.) Lam. Different studies confirmed that Eleusine coracana was originated from E. indica and E. floccifolia genomes and selected for cultivation from its wild type E. Africana.

Finger millet is native to the Ethiopian and Ugandan highlands. Interesting crop characteristics of finger millet are the ability to withstand cultivation at altitudes over

2000 m above sea level, its high drought tolerance, and the long storage time of the grains. Main cultivation areas are Eastern and Southern African countries (Uganda, Kenya, the Democratic Republic of the Congo, Zimbabwe, Zambia, Sudan, Tanzania, Nigeria and Mozambique) and Southern Asia (mainly India and Nepal).

Crop does not mature uniformly and hence the harvest is to be taken up in two stages. When the earhead on the main shoot and 50% of the earheads on the crop turn brown, the crop is ready for the first harvest. At the first harvest, all earheads that have turned brown should be cut. After this drying, threshing and cleaning the grains by winnowing. The second harvest is around seven days after the first. All earheads, including the green ones, should be cut. The grains should then be cured to obtain maturity by heaping the harvested earheads in shade for one day without drying, so that the humidity and temperature increase and the grains get cured. After this drying, threshing and cleaning as after the first harvesting.

As a first step of processing finger millet can be milled to produce flour. However, finger millet is difficult to mill due to the small size of the seeds and because the bran is bound very tightly to the endosperm. Furthermore, the delicate seed can get crushed during the milling. The development of commercial mechanical milling systems for finger millet is challenging. Therefore, the main product of finger millet is whole grain flour. This has disadvantages, such as reduced storage time of the flour due to the high oil content. Furthermore, the industrial use of whole grain finger millet flour is limited. Moistening the millet seeds prior to grinding helps to remove the bran mechanically without causing damage to the rest of the seed. The mini millet mill can also be used to process other grains such as Finger Millet and sorghum.

Another method to process the finger millet grain is germinating the seed. This process is also called malting and is very common in the production of brewed beverages such as beer. When finger millet is germinated, enzymes are activated,

which transfer starches into other carbohydrates such as sugars. Finger millet has a good malting activity. The malted finger millet can be used as a substrate to produce for example gluten-free beer or easily digestible food for infants.

Millet flour is 9% water, 75% carbohydrates, 11% protein, and 4% fat (table). In a 100-gram (3 1⁄2-ounce) reference amount, millet flour provides 1,600 kilojoules (382 kilocalories) of food energy and is a rich source (20% or more of the Daily Value, DV) of protein, dietary fiber, several B vitamins, and numerous dietary minerals. It has poor content of calcium, potassium, and sodium (less than 10% DV, table).

2. MARKET POTENTIAL:

India is the leading producer of small millets namely, finger millet (ragi), kodo millet (kodo), foxtail millet (kangni), barnyard millet (sawan), proso millet (cheema) and little millet (kutki). Annual planting area under them is around 2.5 million hectares; and nearly 1.5 million hectares is under finger millet comprising about 40-50% of crop's global area. During the last three decades, area under finger millet has declined but with the significant improvement in the productivity (1,500 kg/ha), its annual production is maintained at around 2.4 million tonnes. At present, small millets account for less than 1% of food grains produced in the world (ICAR, 2010). Their cultivation dates back to nearly 5000 years, and in India, they form an important component of the traditional cropping systems and contribute significantly to the regional food and nutritional security and diversity in the national food basket; and they are important in areas of their production as dryland crops, as well as for hill agriculture. The small millet grains have longer storage life, and can be termed as famine reserve. The resilience exhibited by them may prove good for their adjustment to different eco-systems and make them potential crops for contingency plantings.

3. PRODUCT DESCRIPTION

3.1 PRODUCT BENEFITS

- Finger millet (ragi) is rich in protein, iron, calcium, phosphorus, fibre and vitamin content. The calcium content is higher than all the cereals and iodine content is said to be highest among all the food grains.
- Ragi has best quality protein along with the presence of essential amino acids, vitamin A, vitamin B and phosphorus.
- Finger millet (ragi) provides highest of level of calcium, antioxidants properties, phytochemicals, which make it easily and slowly digestible. Hence it helps to control blood glucose levels in diabetic patients very efficiently.
- Traditionally the millet malt is utilized for infant feeding purpose and also to prepare beverages either with milk of luke warm water with the addition of sugar since pretty old times.
- Finger millet is a very good source of natural Iron and its consumption helps in recovery of Anemia. The Ragi based foods are highly suited for expectant mothers and elderly due to there high calcium and iron content.
- Finger millet consumption helps in relaxing body naturally. It is beneficial in conditions of anxiety, depression and insomnia. It is also useful for migraines.
- Green ragi (finger millet) is recommended for conditions of blood pressure, liver disorders, asthma and heart weakness. Green ragi is also recommended to lactating mothers in condition of lack of milk production.

- If consumed regularly, finger millet could help in keeping malnutrition, degenerative diseases and premature aging at bay.

3.2 RAW MATERIAL

- Whole Finger Millet themselves are the raw material;
- Packaging material

3.3 MANUFACTURING PROCESS

- Grain delivery
- Grain standard
- Grain storage
- Cleaning the Finger Millet
  - ✓ Magnetic separator
  - ✓ Separator
  - ✓ Aspirator
  - ✓ De-stoner
  - ✓ Disc separator
  - ✓ Impact Entoleter
  - ✓ Color Separator
- Grinding Finger Millet
- Sifters
- Blending
- Finished product testing
- Packaging of Product

4. PROJECT COMPONENTS

Plant & Machinery

1.	**Vibrating Pre-Cleaner**
2.	**De-stoner**
3.	**Disc Separator**
4.	**Magnetic Separator**
5.	**Aspirator**
6.	**Heavy duty Pulveriser Mill**
7.	**Flour Sifter Machine**
8.	**Packet Filling &Packaging Machine**

PROJECTED PROFITABILITY STATEMENT **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	**50%**	**55%**	**60%**	**65%**	**70%**
SALES					
Gross Sale					
Ragi Flour	85.50	103.48	118.31	134.03	150.66
Total	**85.50**	**103.48**	**118.31**	**134.03**	**150.66**
COST OF SALES					
Raw Material Consumed	54.60	62.70	72.00	81.90	92.40
Electricity Expenses	2.40	2.90	3.17	3.43	3.70
Depreciation	4.60	3.92	3.33	2.84	2.41
Wages & labour	6.24	6.86	7.55	7.93	8.32
Repair & maintenance	1.28	2.59	2.96	3.35	3.77
Packaging	1.71	2.07	2.37	2.68	3.01
Cost of Production	70.83	81.04	91.37	102.13	113.61
Add: Opening Stock /WIP	-	3.54	4.05	4.57	5.11
Less: Closing Stock /WIP	3.54	4.05	4.57	5.11	5.68
Cost of Sales	67.29	80.53	90.86	101.59	113.04
GROSS PROFIT	**18.21**	**22.95**	**27.45**	**32.44**	**37.62**
	21.30%	**22.18%**	**23.20%**	**24.20%**	**24.97%**
Salary to Staff	5.40	6.21	6.83	7.51	8.27
Interest on Term Loan	2.74	2.42	1.73	1.05	0.37
Interest on working Capital	0.83	0.83	0.83	0.83	0.83
Rent	2.40	2.64	2.90	3.19	3.51
selling & adm exp	0.04	1.55	2.37	2.68	3.01
TOTAL	**11.41**	**13.64**	**14.66**	**15.27**	**15.99**
NET PROFIT	6.80	9.31	12.79	17.18	21.63
Taxation	0.30	0.65	1.32	2.53	3.86
PROFIT (After Tax)	6.49	8.66	11.47	14.65	17.77
NP Ratio	7.60%	8.37%	9.69%	10.93%	11.79%

PROJECTED BALANCE SHEET **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Liabilities					
Capital					
opening balance		5.93	9.59	14.05	19.20
Add:- Own Capital	3.93				
Add:- Retained Profit	6.49	8.66	11.47	14.65	17.77
Less:- Drawings	4.50	5.00	7.00	9.50	12.50
Closing Balance	5.93	9.59	14.05	19.20	24.47
Term Loan	24.80	18.60	12.40	6.20	-
Working Capital Limit	7.50	7.50	7.50	7.50	7.50
Sundry Creditors	1.27	1.46	1.68	1.91	2.16
Provisions & Other Liab	0.40	0.50	0.60	0.72	0.86
TOTAL :	**39.90**	**37.65**	**36.23**	**35.53**	**34.99**
Assets					
Fixed Assets (Gross)	31.00	31.00	31.00	31.00	31.00
Gross Dep.	4.60	8.52	11.85	14.68	17.10
Net Fixed Assets	**26.40**	**22.49**	**19.15**	**16.32**	**13.90**
Current Assets					
Sundry Debtors	4.28	5.17	5.92	6.70	7.53
Stock in Hand	5.36	6.14	6.97	7.84	8.76
Cash and Bank	3.86	3.85	4.20	4.68	4.79
TOTAL :	**39.90**	**37.65**	**36.23**	**35.53**	**34.99**
	-	-	-	-	-

PROJECTED CASH FLOW STATEMENT **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
SOURCES OF FUND					
Own Margin	3.93				
Net Profit	6.80	9.31	12.79	17.18	21.63
Depriciation & Exp. W/off	4.60	3.92	3.33	2.84	2.41
Increase in Cash Credit	7.50	-	-	-	-
Increase In Term Loan	27.90	-	-	-	-
Increase in Creditors	1.27	0.19	0.22	0.23	0.25
Increase in Provisions & Oth lib	0.40	0.10	0.10	0.12	0.14
Sunsidy/grant	-				
TOTAL :	**52.41**	**13.51**	**16.44**	**20.36**	**24.44**
APPLICATION OF FUND					
Increase in Fixed Assets	31.00				
Increase in Stock	5.36	0.78	0.83	0.87	0.92
Increase in Debtors	4.28	0.90	0.74	0.79	0.83
Repayment of Term Loan	3.10	6.20	6.20	6.20	6.20
Drawings	4.50	5.00	7.00	9.50	12.50
Taxation	0.30	0.65	1.32	2.53	3.86
TOTAL :	**48.54**	**13.53**	**16.09**	**19.88**	**24.32**
Opening Cash & Bank Balance	-	3.86	3.85	4.20	4.68
Add : Surplus	3.86	-0.02	0.35	0.48	0.12
Closing Cash & Bank Balance	**3.86**	**3.85**	**4.20**	**4.68**	**4.79**

CALCULATION OF D.S.C.R

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	11.09	12.57	14.80	17.49	20.18
Interest on Term Loan	2.74	2.42	1.73	1.05	0.37
Total	13.84	14.99	16.53	18.54	20.55
REPAYMENT					
Instalment of Term Loan	3.10	6.20	6.20	6.20	6.20
Interest on Term Loan	2.74	2.42	1.73	1.05	0.37
Total	5.84	8.62	7.93	7.25	6.57
DEBT SERVICE COVERAGE RATIO	**2.37**	**1.74**	**2.08**	**2.56**	**3.13**
AVERAGE D.S.C.R.					**2.38**

REPAYMENT SCHEDULE OF TERM LOAN							
						Interest	11.00%
Year	Particulars	Amount	Addition	Total	Interest	epaymen	Closing Balance
ist	Opening Balance						
	1st month	-	27.90	27.90	-	-	27.90
	2nd month	27.90	-	27.90	0.26	-	27.90
	3rd month	27.90	-	27.90	0.26	-	27.90
	4th month	27.90	-	27.90	0.26		27.90
	5th month	27.90	-	27.90	0.26		27.90
	6th month	27.90	-	27.90	0.26		27.90
	7th month	27.90	-	27.90	0.26	0.52	27.38
	8th month	27.38	-	27.38	0.25	0.52	26.87
	9th month	26.87	-	26.87	0.25	0.52	26.35
	10th month	26.35	-	26.35	0.24	0.52	25.83
	11th month	25.83	-	25.83	0.24	0.52	25.32
	12th month	25.32	-	25.32	0.23	0.52	24.80
					2.74	3.10	
2nd	Opening Balance						
	1st month	24.80	-	24.80	0.23	0.52	24.28
	2nd month	24.28	-	24.28	0.22	0.52	23.77
	3rd month	23.77	-	23.77	0.22	0.52	23.25
	4th month	23.25	-	23.25	0.21	0.52	22.73
	5th month	22.73	-	22.73	0.21	0.52	22.22
	6th month	22.22	-	22.22	0.20	0.52	21.70
	7th month	21.70	-	21.70	0.20	0.52	21.18
	8th month	21.18	-	21.18	0.19	0.52	20.67
	9th month	20.67	-	20.67	0.19	0.52	20.15
	10th month	20.15	-	20.15	0.18	0.52	19.63
	11th month	19.63	-	19.63	0.18	0.52	19.12
	12th month	19.12	-	19.12	0.18	0.52	18.60
					2.42	**6.20**	
3rd	Opening Balance						
	1st month	18.60	-	18.60	0.17	0.52	18.08
	2nd month	18.08	-	18.08	0.17	0.52	17.57
	3rd month	17.57	-	17.57	0.16	0.52	17.05
	4th month	17.05	-	17.05	0.16	0.52	16.53
	5th month	16.53	-	16.53	0.15	0.52	16.02
	6th month	16.02	-	16.02	0.15	0.52	15.50
	7th month	15.50	-	15.50	0.14	0.52	14.98
	8th month	14.98	-	14.98	0.14	0.52	14.47
	9th month	14.47	-	14.47	0.13	0.52	13.95
	10th month	13.95	-	13.95	0.13	0.52	13.43
	11th month	13.43	-	13.43	0.12	0.52	12.92

12th month	12.92	-	12.92	0.12	0.52	12.40
				1.73	**6.20**	
4th Opening Balance						
1st month	12.40	-	12.40	0.11	0.52	11.88
2nd month	11.88	-	11.88	0.11	0.52	11.37
3rd month	11.37	-	11.37	0.10	0.52	10.85
4th month	10.85	-	10.85	0.10	0.52	10.33
5th month	10.33	-	10.33	0.09	0.52	9.82
6th month	9.82	-	9.82	0.09	0.52	9.30
7th month	9.30	-	9.30	0.09	0.52	8.78
8th month	8.78	-	8.78	0.08	0.52	8.27
9th month	8.27	-	8.27	0.08	0.52	7.75
10th month	7.75	-	7.75	0.07	0.52	7.23
11th month	7.23	-	7.23	0.07	0.52	6.72
12th month	6.72	-	6.72	0.06	0.52	6.20
				1.05	**6.20**	
5th Opening Balance						
1st month	6.20	-	6.20	0.06	0.52	5.68
2nd month	5.68	-	5.68	0.05	0.52	5.17
3rd month	5.17	-	5.17	0.05	0.52	4.65
4th month	4.65	-	4.65	0.04	0.52	4.13
5th month	4.13	-	4.13	0.04	0.52	3.62
6th month	3.62	-	3.62	0.03	0.52	3.10
7th month	3.10	-	3.10	0.03	0.52	2.58
8th month	2.58	-	2.58	0.02	0.52	2.07
9th month	2.07	-	2.07	0.02	0.52	1.55
10th month	1.55	-	1.55	0.01	0.52	1.03
11th month	1.03	-	1.03	0.01	0.52	0.52
12th month	0.52	-	0.52	0.00	0.52	-
				0.37	**6.20**	
DOOR TO DOOR	60	MONTHS				
MORATORIUM PERIOD	6	MONTHS				
REPAYMENT PERIOD	54	MONTHS				

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