RICE FLAKES (POHA FOR ALU POHA & CHIVDA POHA)

1. INTRODUCTION:

India is second largest producer of paddy. Paddy is the major cereal crop of India, covering an area of more than 40 million hectares. It has become staple food for the people across India. Various recipes can be prepared with adding sweetness, spices to rice flakes and these are consumed on daily basis as breakfast as it is light and nutritious. Paddy is available in plenty in India, majorly in Kerala and hence the raw material has no shortage.

2. PRODUCT & ITS APPLICATION:

Rice flakes are heavily used for consumption across India as it is rich in fiber and carbohydrate. Importantly, it can also be consumed by people suffering from diabetes and high blood pressure etc. With variations in recipes and adding of sweetness, spices, vegetables etc. it can become more healthy and likeable across various regions across India.

3. DESIRED QUALIFICATIONS FOR PROMOTER:

Successful running this project does not require any specific qualification.

4. INDUSTRY LOOKOUT AND TRENDS

Increasing processed food demand coupled with ready to eat healthy nutritional meals is expected to drive global cereal ingredients market over the forecast period. Cereal ingredients are expected to be preferred over other breakfast options including high calorie spreads, toasts, meat based dishes, breads and others owing to high nutritional value as compared to others. Huge and fast cereal ingredients market growth can be predicted in

food ingredient sector in coming years. Major cereal ingredients includes wheat flakes, corn puffs, wheat chunk, rice flakes, corn flakes, oat grit, corn chunks, barley puffs, rice chunks and others. Growing prevalence of health issues is expected to contribute towards the cereal ingredients market growth across the globe as developing cereal ingredient market is expected to diminish the health related issues majorly obesity based concern on global level. In addition, changing food habits mainly in developing regions is also expected to enhance market demand over the forecast period. Diet conscious and healthy eating habits of consumer are switching to cereal market. People are opting for healthy and nutritious foods over breads, pizzas and others. Increasing population coupled with widening natural and nutritive food demand over the processed food are predicted to uplift global cereal ingredients market growth in coming years. During grain extrusion process, there is a significant amount of protein disruption resulting into deteriorating cereal ingredient quality. This factor is expected to restrain the market over the forecast period. In addition, volatile prices of raw materials are also expected to act as major hindrance for the global cereal ingredients market growth.

Global cereal ingredient market is segmented on the basis of type and application. Type basis includes wheat along rice, oats, barley and corns. Wheat cereal ingredient can be further classified as wheat puff, wheat others, wheat Grit, wheat flake and wheat chunk, whereas rice cereal ingredients can be categorized as rice flake, rice puffs, rice grit, rice chunks and rice others. Oats cereal ingredients can be segmented into oats grit, oats flakes, oats puffs, oats chunks and others while barley cereal ingredients can be classified as barley puffs, barley chunks, barley grits, barley flakes and others. Corn cereal can be categorized as corn chunks, corn flakes, corn puffs, corn grits and others. Application basis is segmented into hot cereal and cold cereal.

5. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:

Because of its nutritional values, it is consumed across all section of societies with different taste/food preferences. It is mass consumption item. The market is estimated to be growing annually up to 15-18%, and with modern retail providing new recipes of the contemporary products, Indian and Western, a strong wave of growth is anticipated. The demand of Rice

flake in the market is immense and therefore its market position is splendid.With various food standards such as FSSAI, FSMS, ISI and ISO standards implementation and great/attractive pack, there can be huge market growth for manufacturer.

6. RAW MATERIAL REQUIREMENTS:

Paddy is the most basic raw material required. Food grade packaging of paper and HDPE with inner liner is required. Cardboard boxes for packing of seasoning in bunch are required.

7. MANUFACTURING PROCESS:

Graded, sorted paddy is stored in wooden drums or tanks. Boiling water is poured on the paddy. It is allowed to soak for about 30 hours. The paddy is removed from water a couple of hours before the commencement of work. Every time about 25 kg. Of paddy, duly roasted in contact with fine sand tills two or three grains burst, is fed into the flaking machine after removing sand. The rollers of the flaking machine are adjusted according to the fineness of the flakes desired. In a short time the paddy is pressed into fine flakes. By pressing scrapers against the rim all flakes are collected near the centre of the drum and are removed by hand. The sorted and graded flakes thus obtained are packed in suitable polythene lined jute bags.

8. MANPOWER REQUIREMENT:

The enterprise requires 8employees as detailed below**:**

Sr. No.	**Designation of Employees**	**Salary Per Person**	**Monthly Salary ₹**	**Number of employees required**				
				Year-1	**Year-2**	**Year-3**	**Year-4**	**Year-5**
	Variable Labour: Workers							
1	Operator	₹ 10,000.00	₹ 10,000.00	1	1	1	2	2
2	Un Skilled Workers	₹ 8,000.00	₹ 24,000.00	3	3	3	5	5
	sub-total		₹ 34,000.00	4	4	4	7	7

	Fixed Staff:							
1	Accountant	₹ 12,000.00	₹ 12,000.00	1	1	1	1	1
2	Store Keeper	₹ 8,000.00	₹ 8,000.00	1	1	1	2	2
3	Sales Staff	₹ 12,000.00	₹ 24,000.00	2	2	3	3	3
	sub-total		₹ 44,000.00	4	4	5	6	6
	Total		₹ 78,000.00	8	8	9	13	13

9. IMPLEMENTATION SCHEDULE:

The project can be implemented in 5-7.5months' time as detailed below:

Sr. No.	Activity	Time Required *(in months)*
1	Acquisition of premises	1.00
2	Construction (if applicable)	2.50
3	Procurement & installation of Plant & Machinery	2.00
4	Arrangement of Finance	1.00
5	Recruitment of required manpower	1.00
	Total time required *(some activities shall run concurrently)*	5 - 7.50

10. COST OF PROJECT:

The project shall cost ₹ 20.82lacs as detailed below:

Sr. No.	Particulars	₹ in Lacs
1	Land	4.30
2	Building	2.20
3	Plant & Machinery	5.34
4	Furniture, other Misc.Equipments	0.50
5	Other Assets including Preliminary / Pre-operative expenses	0.53
6	Margin for Working Capital	7.95
	Total	**20.82**

11. MEANS OF FINANCE:

Bank term loans are assumed @ 75% of project cost. The proposed funding pattern is as under:

Sr. No.	Particulars	₹ in Lacs
1	Promoter's contribution	5.21
2	Bank Finance	15.62
	Total	**20.82**

12. WORKING CAPITAL CALCULATION:

The project requires working capital of ₹7.95 lacs as detailed below:

Sr. No.	Particulars	Gross Amt	Margin %	Margin Amt	Bank Finance
1	Inventories	3.98	0.25	0.99	2.98
2	Receivables	1.99	0.25	0.50	1.49
3	Overheads	1.99	100%	1.99	0.00
4	Creditors	-		0.00	0.00
	Total	7.95		3.48	4.47

13. LIST OF MACHINERY REQUIRED:

A detail of important machinery is given below:

Sr. No.	Particulars	UOM	Qtty	Rate (₹ in Lacs)	Value (₹ in Lacs)
	Plant & Machinery / equipments				
a)	***Main Machinery***				
1	Flaking Machine	Nos	1	₹ 1.35	₹ 1.35
2	Roasting Machine	Nos	1	₹ 1.05	₹ 1.05
3	Furnace	Nos	1	₹ 0.34	₹ 0.34
4	Paddy Soaking Tank	Nos	1	₹ 0.75	₹ 0.75
5	Storage Tank	Nos	1	₹ 0.35	₹ 0.35

Sr. No.	Particulars	UOM	Qtty	Rate (₹ in Lacs)	Value (₹ in Lacs)
6	Packing, Filling and Sealing Machine	Nos	1	₹ 0.43	₹ 0.43
7	Weighing Scale	Nos	1	₹ 0.18	₹ 0.18
8	Material Handling Equipment	LS		₹ 0.52	₹ 0.52
9	Misc. Tools	LS		₹ 0.37	₹ 0.37
	sub-total Plant & Machinery				**₹ 5.34**
	Furniture / Electrical installations				
1	Office furniture and Electrification	LS	1	₹ 0.50	₹ 0.50
	sub total				**₹ 0.50**
	Other Assets				
1	preliminary and preoperative	LS		0.53	₹ 0.53
	sub-total Other Assets				**₹ 0.53**
	Total				**₹ 6.37**

All the machines and equipments are available from local manufacturers. The entrepreneur needs to ensure proper selection of product mix and proper type of machines and tooling to have modern and flexible designs. It may be worthwhile to look at reconditioned imported machines, dies and tooling. Some of the machinery and dies and tooling suppliers are listed here below:

1. Fry-Tech Food Equipments Private Limited
S. No. 4, Raviraj Industrial Estate,
BhikhubhaiMukhi Ka KuwaBharwadvash,
Ramol, Ahmedabad - 380024,
Gujarat, India

2. Hindustan Vibrotech Pvt. Ltd.
Office No. 2, Ground Floor,
Vrindavan Building, Vile Parle East,
Mumbai – 400057,
Maharashtra, India

3. Electrons cooling systems Pvt. Ltd.
S-27, SIDCO Industrial Estate
Kakkalur Industrial Estate
Tiruvallur – 602003,
Tamil Nadu, India

4. Springboard Enterprises India Ltd.
1st, 2nd & 3rd Floor,
Plot No. 7, 8 & 9,
Garg Shopping Mall,
Service Centre, Rohini Sector 2
New Delhi – 110085,
Delhi, India

5. Flour Tech Engineers Private Limited
Plot No. 182, Sector 24,
Faridabad - 121005,
Haryana, India

6. P Square Technologies
3, Swami Mahal,
Gurunanak Nagar,
Off. Shankarsheth Road Bhavani Peth,
Pune - 411002,
Maharashtra, India

7. Ricon Engineers
10 To 13, Bhagwati Estate,
Near Amraiwadi Torrent Power,
Behind Uttam Dairy,
Rakhial, Ahmedabad - 380023,
Gujarat, India

8. Kamdhenu Agro Machinery
Plot No. 6, Near Power House,
Wathoda Road Wathoda,
Nagpur - 440035,
Maharashtra, India

14. PROFITABILITY CALCULATIONS:

Sr. No.	Particulars	UOM	Year-1	Year-2	Year-3	Year-4	Year-5
1	Capacity Utilization	%	60%	70%	80%	90%	100%
2	Sales	₹. In Lacs	45.60	53.20	60.80	68.40	76.00
3	Raw Materials & Other direct inputs	₹. In Lacs	22.70	26.48	30.26	34.05	37.83
4	Gross Margin	₹. In Lacs	22.90	26.72	30.54	34.35	38.17
5	Overheads except interest	₹. In Lacs	9.61	10.21	11.41	11.77	12.01
6	Interest @ 10 %	₹. In Lacs	1.56	1.56	1.04	0.78	0.62
7	Depreciation @ 30 %	₹. In Lacs	3.74	2.67	1.87	1.34	1.20
8	**Net Profit before tax**	₹. In Lacs	**7.99**	**12.28**	**16.22**	**20.47**	**24.33**

The basis of profitability calculation:
This unit will have capacity of Sales turnover: 350-400 MT Packets of Rice Flakes. The growth of selling capacity will be increased 10% per year. (This is assumed by various analysis and study; it can be increased according to the selling strategy.)

Energy Costs are considered at Rs 7 per Kwh and fuel cost is considered at Rs. 65 per litre. The depreciation of plant is taken at 10-12 % and Interest costs are taken at 14 -15 % depending on type of industry.

15. BREAKEVEN ANALYSIS:

The project shall reach cash break-even at 33.10% of projected capacity as detailed below:

Sr. No.	Particulars	UOM	Value
1	Sales at full capacity	₹. In Lacs	76.00
2	Variable costs	₹. In Lacs	37.83
3	Fixed costs incl. interest	₹. In Lacs	12.63
4	BEP = FC/(SR-VC) x 100 =	% of capacity	33.10%

16. STATUTORY / GOVERNMENT APPROVALS

The Ministry of Food Processing Industries has been operating several plan schemes for the development of processed food sector in the country during the 10th Plan. One of the schemes relates to the Technology Up-gradation/ Establishment/ Modernization of food processing industries.

The Indian food processing industry is regulated by several laws which govern the aspects of sanitation, licensing and other necessary permits that are required to start up and run a food business. The legislation that dealt with food safety in India was the Prevention of Food Adulteration Act, 1954 (hereinafter referred to as "**PFA**"). The PFA had been in place for over five decades and there was a need for change due to varied reasons which include the changing requirements of our food industry. The act brought into force in place of the PFA is the Food Safety and Standards Act, 2006 (hereinafter referred to as "**FSSA**") that overrides all other food related laws.

FSSA initiates harmonization of India's food regulations as per international standards. It establishes a new national regulatory body, the Food Safety and Standards Authority of India (hereinafter referred to as "**FSSAI**"), to develop science based standards for food and to regulate and monitor the manufacture, processing, storage, distribution, sale and import of food so as to ensure the availability of safe and wholesome food for human consumption. Entrepreneur may contact State Pollution Control Board where ever it is applicable.

All food imports will therefore be subject to the provisions of the FSSA and rules and regulations which as notified by the Government on 5th of August 2011 will be applicable.

Key Regulations of FSSA

A. Packaging and Labeling

B. Signage and Customer Notices

C. Licensing Registration and Health and Sanitary Permits

17. BACKWARD AND FORWARD INTEGRATIONS

The objective of the scheme is to provide effective and seamless backward and forward integration for processed food industry by plugging the gaps in supply chain in terms of availability of raw material and linkages with the market. Under the scheme, financial assistance is provided for setting up of primary processing centers/ collection centers at farm gate and modern retail outlets at the front end along with connectivity through insulated/ refrigerated transport.

The Scheme is applicable to perishable horticulture and non-horticulture produce such as, fruits, vegetables, dairy products, meat, poultry, fish, Ready to Cook Food Products, Honey, Coconut, Spices, Mushroom, Retails Shops for Perishable Food Products etc. The Scheme would enable linking of farmers to processors and the market for ensuring remunerative prices for agri produce.

The scheme is implemented by agencies/ organizations such as Govt. / PSUs/ Joint Ventures/ NGOs/ Cooperatives/ SHGs / FPOs / Private Sector / individuals etc.

Backward Linkage:

- Integrated Pack-house(s) (with mechanized sorting & grading line/ packing line/ waxing line/ staging cold rooms/cold storage, etc.)
- Pre Cooling Unit(s)/ Chillers
- Reefer boats
- Machinery & equipment for minimal processing and/or value addition such as cutting, dicing, slicing, pickling, drying, pulping, canning, waxing, etc.

- Machinery & equipment for packing/ packaging.

Forward Linkage:

- Retail chain of outlets including facilities such as frozen storage/ deep freezers/ refrigerated display cabinets/cold room/ chillers/ packing/ packaging, etc.
- Distribution center associated with the retail chain of outlets with facilities like cold room/ cold storage/ ripening chamber.

18. TRAINING CENTERS AND COURSES

There are few specialized Institutes provide degree certification in Food Technology, few most famous and authenticate Institutions are as follows:

1. Indian Institute of Food Science & Technology,
   Plot No.1, Near Maa-BaapkiDargah,Opp to Nath Seeds,
   Paithan Road Aurangabad
   Aurangabad - 431005
   Maharashtra, India

2. MIT College of Food Technology, Pune
   Gate.No.140, Raj Baugh Educational Complex,
   Pune Solapur Highway,
   LoniKalbhor, Pune – 412201
   Maharashtra, India

3. CSIR - Central Food Technological Research Institute (CFTRI)
   Cheluvamba Mansion, Opp. Railway Museum,
   Devaraja Mohalla, CFTRI Campus, Kajjihundi, Mysuru
   Karnataka – 570020

Udyamimitraportal (link : www.udyamimitra.in) can also be accessed for handholding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

Entrepreneurship program helps to run business successfully is also available from Institutes like Entrepreneurship Development Institute of India (EDII) and its affiliates all over India.

Disclaimer:

Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not carry any recommendation.