

RICE FLAKES

1.0 INTRODUCTION

Rice flakes are prepared from paddy. It is also popularly known as "Poha". It is a fast moving consumer item and generally eaten as breakfast item. It can be fried with spices and chilly to make hot and tasty food item or milk or curd is mixed with it and then eaten. It is also used in large quantities for making 'Chevda' (a farsan item) and many caterers use it for thickness of gravy. Since it is made from paddy, it is easily digestible. Most of its preparations can be made at a short notice and hence bulk of the households store it on regular basis. With proper storage, its shelf life is 2-3 months. This is a common product and can be produced anywhere in the country. This note envisages Bihar or Jharkhand as the proposed location.

2.0 PRODUCTS

Rice flakes are made from paddy and hence they are easy to digest. Spicy as well as sweet preparations are made from them in the category of fast food items. Since the manufacturing process involves roasting of rice, the shelf life of flakes is longer.

2.1 Compliance under the PFA Act is mandatory.

3.0 MARKET POTENTIAL

3.2 Demand and Supply

Rice flakes or poha is an important breakfast in semi-urban and rural areas and middle class families of urban India. Spicy or sweet preparations made from it are not only easy to make but they can be made at a short notice as well. Therefore it is extensively used all over the country round the year.

3.2 Marketing Strategy

Apart from households, its spicy preparations are sold in restaurants, roadside dhabas or eateries, canteens etc. There is also a fairly large bulk market. Farsan makers use it to make Chevda and it is also used to increase thickness of gravies. Thus, the manufacturer has to cater both these segments.

4.0 MANUFACTURING PROCESS

It is very well established and simple. Paddy is cleaned and graded to remove impurities and then it is soaked in hot water for about 45 minutes. Then it is dried and roasted. Subsequently, it is taken to mill for processing and flakes are passed through sieves to separate bran and broken flakes and to obtain flakes of fairly even size. During this process, yield of good quality flakes is around 80%, process loss and wastage are about 10% and balance 10% is bran which is used by cattlefeed producers. The process flow chart is as under:

Cleaning and Grading

K

Soaking

K

Drying and Roasting

K

Sieving

K

Packing

5.0 CAPITAL INPUTS

5.1 Land and Building

A plot of land of about 250 sq.mtrs. with built-up area of 75 sq.mtrs. is adequate. Land may cost Rs. 75,000/- whereas building around Rs. 1.25 lacs. The main production area would require about 40 sq.mtrs. and godown, packing and other facilities can be accommodated in remaining 35 sq.mtrs. Spare land is envisaged as raw materials as well finished goods can be stored in open area except during monsoon period.

5.2 Plant and Machinery

It is suggested to install machinery to process around 450 tonnes of paddy every year with 300 working days and working of 2 shifts every day.

This would require following machines:

(Rs. in lacs)

Item	Qty.	Price
Poha Mills with accessories and electric motors	2	0.80
Electrically-operated Roaster	1	0.75
Coal-fired Furnace	1	0.15
Paddy Soaking Tanks of 200 kg. Cap.	4	0.20
Sieves	4	0.12
Sealing Machine, weighing scales etc.	--	0.20
	Total	2.22

5.3 Miscellaneous Assets

A provision of Rs. 50,000/- would take care of other items like furniture and fixtures, storage facilities, packing tables etc.

5.4 Utilities

25 HP power connection shall be required whereas per day water required for process and

other purposes will be 800-900 litres. Hard coke of around 14-15 tons will be required per year for furnace which would cost Rs. 20,000/-.

5.5 Raw Material

The most critical material will be good quality paddy. It is grown in many parts of Bihar and Jharkhand but the location should be chosen carefully to ensure adequate supply round the year. Hence areas where 2 crops are taken or locations close to Orissa and West Bengal are ideal as these states take 2 or even 3 crops every year. 1 kg, 2 kg and 5 kgs capacity polythene bags and 25 kgs. capacity gunny bags (for bulk supply) shall be required for packing.

6.0 MANPOWER REQUIREMENTS

Particulars	Nos	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Worker	4	2,000	8,000
Unskilled Workers	4	1,000	4,000
		Total	12,000

7.0 TENTATIVE IMPLEMENTATION SCHEDULE

Activity	Period (in months)
Application and sanction of loan	2
Site selection and commencement of civil work	1
Completion of civil work and placement of orders for machinery	4
Erection, installation and trial runs	1

8.0 DETAILS OF THE PROPOSED PROJECT

8.1 Land and Building

Particulars	Area (Sq.Mtrs)	Cost (Rs.)
Land	250	75,000
Building	75	1,25,000

8.2 Plant and Machinery

As explained in detail in earlier paragraph, the total expenditure will be Rs. 2.22 lacs.

8.3 Miscellaneous Assets

A provision of Rs. 50,000/- is adequate as mentioned earlier.

8.4 Preliminary & Pre-operative Expenses

There will be many pre-production expenses like registration, administrative and travelling charges, interest during implementation, trial run expenses etc. for which a provision of Rs. 45,000/- is made.

8.5 Working Capital Requirement

In the first year at 60% capacity utilisation, the working capital needs shall be as under:

(Rs. in lacs)

Particulars	Period	Margin	Total	Bank	Promoters
Stock of Raw materials	1 Month	30%	2.00	1.40	0.60
Stock of Finished Goods	¼ Month	25%	0.60	0.45	0.15
Receivables	1 Month	25%	2.65	2.00	0.65
Working Expenses	1 Month	100%	0.30	--	0.30
		Total	5.55	3.85	1.70

8.6 Cost of the Project and Means of Financing

(Rs. in lacs)

Item	Amount
Land and Building	2.00
Plant and Machinery	2.22
Miscellaneous Assets	0.50
P&P Expenses	0.45
Contingencies @ 10% on Land & Building and Plant & Machinery	0.42
Working Capital Margin	1.70
Total	7.29
Means of Finance	
Promoters' Contribution	2.09
Term Loan from Bank/FI	5.20
Total	7.29
Debt Equity Ratio	2.49 : 1
Promoters' Contribution	29%

Financial assistance in the form of grant is available from the Ministry of Food Processing Industries, Govt. of India, towards expenditure on technical civil works and plant and machinery for eligible projects subject to certain terms and conditions.

9.0 PROFITABILITY CALCULATIONS

9.1 Production Capacity and Build-up

As against the rated production capacity of 450 tonnes per year, actual utilisation is envisaged to be 60% in the first year and 75% from second year onwards.

9.2 Sales Revenue at 100%

(Rs. in lacs)

Product	Qty (Tonnes)	Selling Price (Rs/Ton)	Sales
Rice Flakes	360	10,000/-	36.00
Rice Bran	45	2,000/-	0.90
		Total	36.90

9.3 Raw Materials Required at 100%

(Rs. in lacs)

Product	Qty. (Tonnes)	Rate (Rs. per Ton)	Value
Paddy	450	5,000	22.50
Packing Materials	--	--	0.90
		Total	23.40

9.4 Utilities

Requirement of utilities are already explained. Total expenditure on utilities at 100% is likely to be Rs.75,000/-.

9.5 Selling Expenses

There will be transportation cost and commission to retailers for which a provision of 12.5% of sales is made every year.

9.6 Interest

Interest on term loan is calculated @ 12% per annum assuming complete repayment in 4 years including a moratorium period of 1 year whereas interest on working capital loan from bank is calculated @ 14% per annum.

9.7 Depreciation

It is calculated on WDV basis @ 10% on building and 20% on machinery and miscellaneous assets.

10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
A	Installed Capacity	--- 450 Tonnes ---	
	Capacity Utilisation	60%	75%
	Sales Realisation	22.15	27.70
B	Cost of Production		
	Raw and Packing Materials	14.04	17.55
	Utilities	0.45	0.56
	Salaries	1.44	1.60
	Stores & Spares	0.18	0.24
	Repairs & Maintenance	0.24	0.33
	Selling Expenses @ 12.5%	2.77	3.46
	Administrative Expenses	0.24	0.33
	Total	19.36	24.07
C	Profit before Interest & Depreciation	2.79	3.63
	Interest on Term Loan	0.56	0.37
	Interest on Working Capital	0.54	0.62
	Depreciation	0.67	0.55
	Profit before Tax	1.02	2.09
	Income-tax @ 20%	--	0.40
	Profit after Tax	1.02	1.69
	Cash Accruals	1.69	2.24
	Repayment of Term Loan	--	1.60

11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

No	Particulars	Amount	
[A]	Sales		22.15
[B]	Variable Costs		
	Raw & Packing Materials	14.04	
	Utilities (60%)	0.25	
	Salaries (65%)	0.94	
	Stores & Spares	0.18	
	Selling Expenses (65%)	1.80	
	Admn Expenses (50%)	0.12	
	Interest on WC	0.54	17.87
[C]	Contribution [A] - [B]		4.27
[D]	Fixed Costs		2.43
[E]	Break-Even Point [D] ÷ [C]		57%

12.0 [A] LEVERAGES

Financial Leverage

$$= \text{EBIT/EBT}$$

$$= 2.12 \div 1.02$$

$$= 2.08$$

Operating Leverage

$$= \text{Contribution/EBT}$$

$$= 4.28 \div 1.02$$

$$= 4.20$$

Degree of Total Leverage

$$= \text{FL/OL}$$

$$= 2.08 \div 4.20$$

$$= 0.50$$

[B] Debt Service Coverage Ratio (DSCR)

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr	4th Yr
Cash Accruals	1.69	2.24	2.45	2.71
Interest on TL	0.56	0.37	0.23	0.11
Total [A]	2.25	2.61	2.68	2.82
Interest on TL	0.56	0.37	0.23	0.11
Repayment of TL	--	1.70	1.70	1.80
Total [B]	0.56	2.07	1.93	1.91
DSCR [A] ÷ [B]	4.02	1.27	1.39	1.53
Average DSCR	----- 2.05 -----			

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 7.29 lacs.

(Rs. in lacs)

Year	Cash Accruals	16%	18%	20%
1	1.69	1.46	1.43	1.41
2	2.24	1.66	1.61	1.55
3	2.45	1.57	1.49	1.42
4	2.71	1.50	1.40	1.31
5	2.93	1.39	1.28	1.18
	12.02	7.58	7.21	6.87

The IRR is around 18%.

Some of the machinery suppliers are

1. S P Engineering Works, Fazal Gunj, Kanpur
2. AMS Engg, Station Rd., Patna
3. Prabhat Agency, Siwan.
4. Gurunanak Engg. And Foundry Works, 166, Foacl Point, Mehta Rd., Amritsar-143039.
Tel No. 2583542/7943, Fax: 2587944
5. Indopol Food Processing Industry Pvt. Ltd., 28, Sector 27-C, Faridabad-121003.
Tel No. 2276161/62, Fax : 2270549