MAIZE POPCORN

1.0 INTRODUCTION

Popcorn, wafers, noodles are the products which are sold round the year and are consumed mainly by children and young generation. Popcorn is eaten purely as a snack item during picnics, travelling, while watching a movie or TV and many children carry them in lunch box while attending school. It is a mass consumption item with fairly long shelf life. It is a low cost snack and also has nutritional values as the main raw material is maize. Reportedly this activity has not picked up in Arunachal Pradesh even though there is a large consumption. Hence, Arunachal Pradesh is the preferred location.

2.0 PRODUCT

2.1 Applications

Maize popcorn is very popular as they are tasty, easy to carry and eat and are also nutritious. They are made by roasting (popping) maize and by adding salt, pepper etc. They are tasty and liked especially by children and youngsters.

2.2 Availability of know-how and compliances

CFTRI, Mysore, has successfully developed the technical know-how. PFA Act has to be complied with.

3.0 MARKET POTENTIAL

Popcorns are fast moving consumables, and with changing life styles and eating habits, have become a favourite item with children and youngsters alike. It is a low cost and nutritious item and is consumed regularly. Attractive packing, proper placement and lucrative commission to retailers are the key factors in selling. There are many branded products but market is controlled by local manufacturers as the product is bulky and transportation is the

main hurdle. Hence, there are fairly good chances for a new entrant especially in a state like Arunachal Pradesh where consumption is on the rise with very few local manufacturers.

4.0 MANUFACTURING PROCESS

The process of manufacture is simple. Maize grains are washed and dried and then they are fed to automatic popping machines wherein they are roasted and popped. Then additives like salt, black pepper etc. are mixed to impart taste and flavour and finally popcorns are packed in polythene bags. Depending upon the quality of maize and drying, the weight gain after popping is 12% to 15%. But it is not considered while calculating financial viability as there will be some wastage during the process.

5.0 CAPITAL INPUTS

5.1 Land and Building

Instead of buying a plot of land and then undertaking construction, it is suggested to buy a readymade shed or room of about 50 sq.mtrs. which can easily accommodate production, storage and packing areas. It may cost Rs. 1.00 lac.

5.2 Plant and Machinery

Annual rated capacity of 60 tonnes considering one shift working and 300 working days is advisable. This would necessitate the following machines:

Item	Qty.	Price (Rs.)
Automatic Popping Machine	1	40,000
Tray Dryer- 24 trays	1	40,000
	Total	**80,000**

5.3 MISCELLANEOUS ASSETS

Other support facilities like aluminium and stainless vessels, furniture & fixtures, packing tables, storage racks etc. would cost around Rs.40, 000/-.

5.4 Utilities

Power requirement will be 10 HP whereas water required per day will be around 550-600 ltrs.

5.5 Raw and Packing Materials

The all-important raw material will be maize grains. Most of the North-Eastern states cultivate maize in fairly large quantities with total annual production of about 60,000 to 70,000 tonnes. The project even at 100% capacity utilisation will not require more than 60 tonnes annually and hence procurement of good quality maize will not be a problem. Salt, spices etc. shall be available locally. Attractively designed and colourful polythene bags shall be required for inner packing and large sized bags for outer packing for which prior arrangements shall have to be made.

6.0 MANPOWER REQUIREMENTS

Particulars	Nos.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Workers	1	2,250	2,250
Helpers	2	1,250	2,500
Salesman	1	2,500	2,500
		Total	**7,250**

7.0 TENTATIVE IMPLEMENTATION SCHEDULE

Activity	Period (in months)
Application and sanction of loan	1.5
Site selection and commencement of civil work	0.5
Completion of civil work and placement of orders for machinery	1.5
Erection, installation and trial runs	0.5

8.0 DETAILS OF THE PROPOSED PROJECT

8.1 Building

Cost of building is assumed to be Rs. 1.00 lac as discussed earlier.

8.2 Machinery

The total expenditure on machinery is likely to be Rs. 80, 000/- as explained earlier.

8.3 Miscellaneous Assets

Certain miscellaneous assets would cost Rs. 40, 000/- as mentioned before.

8.4 Preliminary & Pre-operative Expenses

A provision of Rs. 35,000/- is made towards pre-production expenses like registration, establishment and administrative expenses, interest during implementation, etc.

8.5 Working Capital Requirements

There is no need to stock large quantities of raw materials or finished goods. The bank may like to sanction post-sales facilities of Rs. 40,000/- and Rs. 10, 000/- can be brought in by the promoters.

8.6 Cost of the Project & Means of Financing (Rs. in lacs)

Item	Amount
Building	1.00
Machinery	0.80
Miscellaneous Assets	0.40
P&P Expenses	0.35
Contingencies @ 10% on Land and Building & Plant & Machinery	0.18
Working Capital Margin	0.10
Total	**2.83**
Means of Finance	
Promoters' Contribution	0.85
Term Loan from Bank/FI	1.98
Total	**2.83**
Debt Equity Ratio	2.33 : 1
Promoters' Contribution	30%

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 & Build-up

As against the annual capacity of 60 tonnes, actual utilisation is expected to be 60% in the first year and thereafter 75%.

9.2 Sales Revenue at 100%

The selling price of some of the branded and established products is in the range of Rs.80 to 100 per kg. But to provide an edge over existing products, selling price is assumed to be Rs.50/- per kg. Thus, yearly sales at 100% would be Rs.30.00 lacs.

9.3 Raw & Packing Materials at 100% (Rs. in lacs)

Product	Qty. (Tonnes)	Price/Ton (Rs.)	Sales Value
Maize Grains	60	25,000	15.00
Salt, Black Pepper, etc.	--	--	0.60
Plastic Bags	--	--	1.80
		Total	**17.40**

9.4 Utilities

Requirements are already explained. Yearly expenses at 100% utilisation would be Rs. 60,000/-.

9.5 Selling Expenses

Marketing will be a key success determinant. There will be expenses on transportation, periodical advertisements in local media and publicity at strategic selling outlets and commission to retailers. A provision of 20% of sales value is made towards these expenses.

9.6 Interest

Interest on term loan of Rs. 1.98 lacs is calculated @ 12% per annum assuming repayment in 3 years including a moratorium period of 1 year. Interest on working capital from bank is computed @ 14% per annum.

9.7 Depreciation

It is computed 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**	**--- 60 Tonnes ---**	
	Capacity Utilisation	60%	75%
	Sales Realisation	18.00	22.50
B	**Cost of Production**		
	Raw and Packing Materials	10.44	13.05
	Utilities	0.36	0.45
	Salaries	0.87	1.05
	Repairs & Maintenance	0.12	0.24
	Selling Expenses @ 20%	3.60	4.50
	Administrative Expenses	0.42	0.60
	Total	**15.81**	**19.89**
C	**Profit before Interest & Depreciation**	**2.19**	**2.61**
	Interest on Term Loan	0.19	0.12
	Interest on Working Capital	0.06	0.08
	Depreciation	0.34	0.28
	Profit before Tax	1.60	2.13
	Income-tax @ 20%	0.32	0.43
	Profit after Tax	1.28	1.70
	Cash Accruals	1.62	1.98
	Repayment of Term Loan	0.36	0.72

11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

No	Particulars		Amount
[A]	**Sales**		**18.00**
[B]	**Variable Costs**		
	Raw and Packing Materials	10.44	
	Utilities (60%)	0.22	
	Salaries (70%)	0.61	
	Selling Expenses (75%)	2.70	
	Admn Expenses (50%)	0.21	
	Interest on WC	0.06	**14.24**
[C]	**Contribution [A] - [B]**		**3.76**
[D]	**Fixed Cost**		**2.16**
[E]	**Break-Even Point [D] ÷ [C]**		**57%**

12.0 [A] LEVERAGES

Financial Leverage

= EBIT/EBT

= 1.85 ÷ 1.60

= 1.16

Operating Leverage

= Contribution/EBT

= 3.76 ÷ 1.60

= 2.35

Degree of Total Leverage

= FL/OL

= 1.16 ÷ 2.35

= 0.49

[B] Debt Service Coverage Ratio (DSCR)

(Rs. in lacs)

Particulars	1st Yr	2nd Yr	3rd Yr
Cash Accruals	1.62	1.98	2.01
Interest on TL	0.19	0.12	0.05
Total [A]	**1.81**	**2.10**	**2.06**
Interest on TL	0.19	0.12	0.05
Repayment of TL	-	0.99	0.99
Total [B]	**0.19**	**1.11**	**1.04**
DSCR [A] ÷ [B]	**9.52**	**1.89**	**1.98**
Average DSCR	**---------- 4.46 ----------**		

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 2.83 lacs.

(Rs. is lacs)

Year	Cash Accruals	24%	28%	32%
1	1.62	0.69	0.60	0.53
2	1.98	1.60	1.55	1.50
3	2.01	1.31	1.23	1.15
	5.61	**3.60**	**3.38**	**3.18**

The IRR is around 36%.

The machinery suppliers are

1. M/s. Industrial Equipments
2. M/s. Archana Machinery Stores of Guwahati