READY-TO-EAT VEGETABLES

1.0 INTRODUCTION

In most of the big cities, lifestyles are changing very rapidly. With husband & wife preferring to work, life has become very fast and preparedness to spend has also gone up. This has resulted in many ready-to-eat items becoming popular during last few years. Canned ready-to-eat vegetables is one such item which is gaining popularity in urban areas. With many Indians settling abroad, students going out for further studies and foreigners developing a liking for the Indian curried vegetables and other food items, there are fairly good chances of exports as well. The promoters must observe strict hygienic norms irrespective of the targeted market.

2.0 PRODUCT

2.1 Applications

There is a possibility of introducing many curried food items like Chhole, Rajmah, Mutter Paneer, Palak Paneer, Dum Allo, Malai Kofta and so on and there could be some new varieties as well. These vegetables are eaten along with rice or chapati. This project can be set up in industrially developed states like Maharashtra, Gujarat, MP, TN, Karnataka and so on and this note considers Maharashtra as the prospective location.

2.2 Availability of know-how and Compliances

CFTRI, Mysore, has successfully developed the technical know-how. Compliance under the PFA Act is mandatory.

3.0 MARKET POTENTIAL

3.1 Demand and Supply

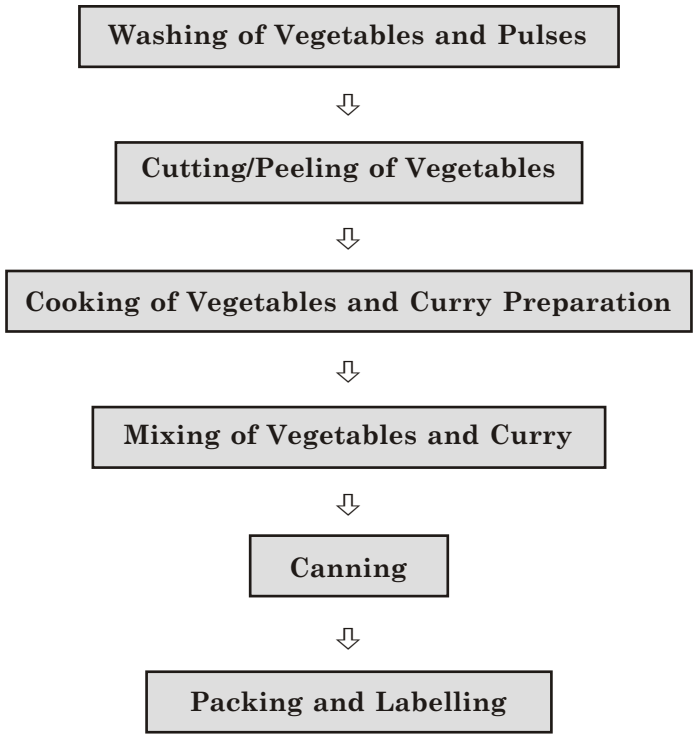
Lifestyles of Indian families are changing rapidly. Urban families have witnessed tremendous pressure on time and this has resulted in visible change in their eating habits as well. After the popularity of ready-to-eat snacks, it is now turn of the food items consumed during meals. Many working couples and their family members have started switching over to convenience food and canned curried vegetables is one such item.

3.2 Marketing Strategy

With many Indians travelling within and outside the country, cans of such assorted vegetables are convenient as well as economical. Yet another growing market segment is the non-resident Indians and many foreigners with whom Indian cuisine has become very popular. But thrust of this note is growing domestic market as export market would need large production capacity. Exports can be thought of after settling down in the domestic market. But this product is still confined to big Indian cities and location has to be selected accordingly. Marketing will be very critical in view of presence of couple of competitors. Hence proper network of retailers, adequate publicity and appropriate placement are important.

4.0 MANUFACTURING PROCESS

It is simple and standardised. Vegetables and pulses are thoroughly washed in water and then they are cut in the required size or vegetables like ptoatoes or carrots are peeled and then cut. Then they are cooked in the steam jacketted kettle. Simultaneously curry is prepared with ingredients like chopped tomatoes, onions, garlic, butter, chilly, spices etc. and both are mixed homogenously. On cooling, they are packed in the sterilised cans and cans are then exhausted sealed and labelled. The yield is 120% due to addition of many other ingredients and water. The process flow chart is as follows:



5.0 CAPITAL INPUTS

5.1 Land and Building

A plot of land of around 300 sq.mtrs. with constructed area of 150 sq.mtrs. shall be required. Around 75 sq.mtrs. shall be needed for equipments and balance area can be utilised for storage, packing and utility requirements. Land may cost Rs.1.00 lac whereas the cost of construction would be Rs.4.00 lacs.

5.2 Machinery

Rated production capacity of 150 tonnes per year with 300 working days and everyday working of around 12 hours would need following machines:

Item	Qty.	Price (Rs.)
Potato Peeler	1	25,000
Blancher	1	50,000
SS Steam-jacketted Kettle	1	35,000
Pulveriser	1	35,000
Automatic Slicer	1	20,000
Pulper	1	40,000
Can Reformer with Flanger	1	40,000
Hand Flance Rectifier	1	8,000
Can Sealer	1	45,000
Lid Exmbossing Machine	1	15,000
Exhaust Box	1	75,000
Can Seamer	1	75,000
Mini Boiler	1	70,000
SS Tanks, Alu. Trays, Crates, Can Testers, Weighing scales, etc.	--	75,000
	Total	**6,08,000**

5.3 Miscellaneous Assets

Many other assets like furniture & fixtures, exhaust fans, aluminium top packing tables, plastic buckets and tubs, knives, cutters etc. shall be required for which a provision of Rs. 75,000/- is made.

5.4 Utilities

Total power requirement shall be 40 HP whereas 10 tonnes of coal shall be needed every month. Per day water requirement shall be 3000-3200 ltrs.

5.5 Raw and Packing Materials

Apart from various vegetables like capsicum, carrot, green peas, cauliflower, tomatoes, potatoes, spinach etc, other materials like green/red chillies, onions, garlic, spices, rajmah, butter, salt, cream, paneer, edible oil etc. shall also be required. Packing materials like cans, lables, cartons, box strapping etc. shall be needed for which prior arrangements need to be made.

6.0 MANPOWER REQUIREMENTS

Particulars	Nos.	Monthly Salary (Rs.)	Total Monthly Salary (Rs.)
Skilled Workers	3	2,500	7,500
Semi-skilled Workers	2	1,750	3,500
Unskilled Workers	4	1,250	5,000
Salesman	1	2,500	2,500
		Total	**18,500**

7.0 TENTATIVE IMPLEMENTATION SCHEDULE

Activity	Period (in months)
Application and sanction of loan	2
Site selection and commencement of civil work	2
Completion of civil work and placement of orders for machinery	6
Erection, installation and trial runs	2

8.0 DETAILS OF THE PROPOSED PROJECT

8.1 Land and Building

Particulars	Area (Sq.Mtrs)	Cost (Rs.)
Land & Building	300	1,00,000
Building	150	4,00,000
	Total	**5,00,000**

8.2 Machinery

The total expenditure on machinery is estimated to be Rs.6.08 lacs as explained earlier.

8.3 Miscellaneous Assets

An amount of Rs.75,000/- would take care of other assets as stated before.

8.4 Preliminary & Pre-operative Expenses

A provision of Rs.1.00 lac would be enough towards pre production expenses like registration, establishment and administrative expenses like registration, establishment and production expenses like registration, establishment and administrative charges, interest during implementation, trial runs etc.

8.5 Working Capital Requirements

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 Packing Materials	1 Month	30%	1.10	0.75	0.35
Stock of Finished Goods	½ Month	25%	1.10	0.85	0.25
Receivables	½ Month	25%	1.70	1.30	0.40
Working Expenses	1 Month	100%	0.50	--	0.50
		Total	**4.40**	**2.90**	**1.50**

8.6 Cost of the Project & Means of Financing

(Rs. in lacs)

Item	Amount
Land and Building	5.00
Machinery	6.08
Miscellaneous Assets	0.75
P&P Expenses	1.00
Contingencies @ 10% on Land and Building & Plant & Machinery	1.10
Working Capital Margin	1.50
Total	**15.43**
Means of Finance	
Promoters' Contribution	4.63
Term Loan from Bank/FI	10.80
Total	**15.43**
Debt Equity Ratio	2.32 : 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 rated capacity of 150 tonnes, actual working in the first year is assumed to be 60% and thereafter 75%.

9.2 Sales Revenue at 100%

Assuming selling price of Rs.45,000/Ton; sales income for 150 tonnes would be Rs.67.50 lacs.

9.3 Raw and Packing Materials Required at 100%

(Rs. in lacs)

Product	Qty. (Tonnes)	Price/Ton (Rs.)	Value
Vegetables	125	7,000	8.75
Other Ingredients	--	--	1.50
Packing Materials @ Rs.15000/Ton	--	--	22.50
		Total	**32.75**

9.4 Utilities

Annual expenditure on utilities at 100% would be Rs.5.00 lacs.

9.5 Selling Expenses

A provision of 20% of sales income every year would take care of several expenses like commission, transportation, publicity, free sampling etc.

9.6 Interest

Interest on term loan of Rs.9.80 lacs is calculated @ 12% per annum assuming complete repayment in 5 years including a moratorium period of 1 year whereas on working capital from bank it is taken @ 14% per annum.

9.7 Depreciation

It is calculated @ 10% on building and 15% on machinery and miscellaneous assets on WDV basis.

10.0 PROJECTED PROFITABILITY

(Rs. in lacs)

No.	Particulars	1st Year	2nd Year
A	**Installed Capacity**	**--- 150 Tonnes ---**	
	Capacity Utilisation	60%	75%
	Sales Realisation	40.50	50.62
B	**Cost of Production**		
	Raw and Packing Materials	19.65	24.55
	Utilities	3.00	3.75
	Salaries	2.22	2.60
	Stores and Spares	0.60	0.75
	Repairs & Maintenance	0.84	1.00
	Selling Expenses @ 20%	8.10	10.12
	Administrative Expenses	0.60	0.75
	Total	**35.01**	**43.52**
C	**Profit before Interest & Depreciation**	**5.49**	**7.10**
	Interest on Term Loan	1.18	0.96
	Interest on Working Capital	0.41	0.52
	Depreciation	1.42	1.23
	Profit before Tax	2.48	4.39
	Income-tax @ 20%	0.50	0.88
	Profit after Tax	1.98	3.51
	Cash Accruals	3.40	4.74
	Repayment of Term Loan	--	2.45

11.0 BREAK-EVEN ANALYSIS

(Rs. in lacs)

No	Particulars		Amount
[A]	**Sales**		**50.62**
[B]	**Variable Costs**		
	Raw and Packing Materials	24.55	
	Utilities (70%)	2.63	
	Salaries (70%)	1.88	
	Stores & Spares	0.75	
	Selling Expenses (70%)	7.09	
	Admn Expenses (50%)	0.38	
	Interest on WC	0.52	**37.80**
[C]	**Contribution [A] - [B]**		**12.82**
[D]	**Fixed Cost**		**8.13**
[E]	**Break-Even Point [D] ÷ [C]**		**68%**

12.0 [A] LEVERAGES

Financial Leverage

= EBIT/EBT

= 4.07 ÷ 2.48

= 1.64

Operating Leverage

= Contribution/EBT

= 10.22 ÷ 2.48

= 4.12

Degree of Total Leverage

= FL/OL

= 1.64 ÷ 4.12

= 0.40

[B] Debt Service Coverage Ratio (DSCR)

(Rs. in lacs)

Particulars	**1st Yr**	**2nd Yr**	**3rd Yr**	**4th Yr**	**5th Yr**
Cash Accruals	3.40	4.74	5.05	5.51	6.06
Interest on TL	1.18	0.96	0.65	0.36	0.14
Total [A]	**4.58**	**5.70**	**5.70**	**5.87**	**6.20**
Interest on TL	1.18	0.96	0.65	0.36	0.14
Repayment of TL	--	2.70	2.70	2.70	2.70
Total [B]	**1.18**	**3.66**	**3.35**	**3.06**	**2.84**
DSCR [A] ÷ [B]	**3.88**	**1.67**	**1.84**	**2.09**	**2.39**
Average DSCR	**---------- 2.37 ----------**				

[C] Internal Rate of Return (IRR)

Cost of the project is Rs. 15.43 lacs.

(Rs. in lacs)

Year	Cash Accruals	16%	18%	20%
1	3.40	2.93	2.88	2.83
2	4.74	3.52	3.40	3.29
3	5.05	3.24	3.08	2.92
4	5.51	3.04	2.84	2.66
5	6.06	2.88	2.65	2.44
	24.76	**15.61**	**14.85**	**14.14**

The IRR is around 17%.

Some of the equipments and packing machinery suppliers are

1. Techno Equipments,31, Parekh Street, Girgaon, Mumbai 400 004
2. Raylons Metal Works, PB No. 17426, JB Nagar, Andheri (E), Mumbai-400059
3. Auric Techno Services Pvt.Ltd., C-101, Shreenath Hermitage, Baner Rd., Pune-411008. Tel No. 25898072/99113 Fax No. 25899113
4. Container industries, C-299, Ghatkopar Industrial Estate, 72, LBS Marg, Mumbai-400080