FROZEN FOODS: CURRIED VEG, PAROTHA, SNACKS

1. INTRODUCTION:

Curried Veg, Snacks, Mix Vegetable Paratha is a combination of both nutrition and authentic Indian flavor. These foods come with a filling of assorted vegetables mixed with rich Indian spices. A wholesome breakfast item, these stuffed mix vegetable and parathas are perfect when you are running late as they can be cooked in a matter of a few minutes. Nd so these frozen foods are also known as ready to Eat foods.

2. PRODUCT & ITS APPLICATION:

Ready to eat foods (RTE) are convenience foods, enclosed in aluminium container or pouches that only need to be cut and heated before being served. Instant vegetables in retort pouches fall under this category and find application not only as home meal replacement in working class households but also in fast-food restaurants and multi cuisine food joints. These are handy meals for armed forces and paramilitary forces deployed in remote places. RTE food includes wide range of products viz. vegetarian / non - vegetarian, basic food / delectable desserts, south and north Indian items available from a speciality or multi cuisine restaurant & food joint only.

3. DESIRED QUALIFICATIONS FOR PROMOTER:

Successful running this project does not require any specific qualification.

4. INDUSTRY LOOKOUT AND TRENDS

Global frozen food market is expected to garner $306 billion by 2020, registering a CAGR of 4.1% during the forecast period 2015 - 2020. The deep frozen food products that can be

stored and used over a long period are referred to as frozen foods. The most widely used frozen food products include frozen ready-to-eat meals, fruits & vegetables, meat & poultry, sea food, soups and similar array of products.

The global frozen food market comprises retail as well as business customers. Retail customers of frozen food are individuals and households, whereas business customers include hotel chains, fast-food outlets, caterers, and other business buyers. Retail customers mostly prefer cooked and semi-cooked ready-to-eat food, meat, and soups amongst the class of available products in the market. While business customers majorly use frozen meat, sea food, frozen pizza crust, bread, frozen dough, potatoes, and vegetables as the key ingredients for preparing food for end customers. Based on geography, Europe is the largest market, closely followed by North America.

The growth of the frozen food market would primarily be driven by the growing demand and consumption of frozen foods in the developing markets across the Asian countries such as India and China. Increase in disposable incomes coupled with change in lifestyle and food habits are major factors that boost the market growth in these regions. Moreover, a rapid increase in number of large retail chains including hypermarkets and supermarkets has bolstered the demand of frozen food in the developing Asian countries. However, lack of proper refrigeration facility in retail stores and inadequate distribution facility in semi-urban and rural areas are the major challenges for the industry in developing markets. The developed markets are expected to continue their grow at a moderate pace, majorly driven by the mounting consumer preference for healthy frozen foods.

5. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:

Domestic market for frozen foods and RTE packaged food industry has estimated the growth rate of 25% and 40% in the metropolitan cities. As per industry estimates by year 2015, Indian market for frozen and processed foods products will be more than INR 800 Crores, with West India leading in buying, and Mumbai being the biggest market of processed foods valuing around INR 600 Crores followed by North India, targeting Delhi, Delhi-CR and

Chandigarh being the biggest target market of processed foods. There are 5 to 6 large size companies, which successfully manufactures and market range of Instant vegetables in retort pouches in domestic and export markets. They are ITC India Limited, Fazlani Export Pvt Ltd, MTR Foods Pvt Ltd, Kohinoor Foods Limited, GITS Food Products Pvt. Ltd, Vimal Agro Product Pvt. Ltd.

6. RAW MATERIAL REQUIREMENTS:

Some important points for frozen foods while handling raw materials:

Stock-of-Raw-Material :Handling of raw materials is important as it prevents cross contamination from the raw material to ready-to-eat food. Contaminants can be biological, chemical or physical hazards and once introduced into the raw material they can remain in the food throughout the preparation and processing procedure. Contamination can also be introduced into the food by raw material handlers. This is the reason why FSSAI has laid down certain guidelines for handling raw material so that ready-to-eat food can be free from bacteria and viruses that result in food borne diseases.

Important precautions to follow for procuring raw material : As a food business operator the most important precaution you must always follow is to use only good quality raw materials and never use low grade raw material. Make sure that you procure your raw material only from licensed dealers and never from unauthorized dealers or illegal slaughter houses. check the raw materials for any signs of deterioration or unpleasant odour, segregate those materials that show signs of being unfit for human consumption. check for signs of thawing and deterioration in frozen food like water droplets on the product or any change in texture. Thoroughly examine the product to ensure no physical hazard or contamination has taken place. Look out for signs like change in texture, colour or smell which makes the raw material unfit for human consumption and which indicates presence of chemical hazards that can be confirmed with laboratory testing. Purchase only that amount of raw material for which you have adequate capacity to store and keep preserved. Check all packaged food for 'expiry date'/ 'best before' /'Use by' date and ensure correct packaging and storage

conditions have been maintained by the supplier. Important procedure to follow after raw material has been procured. Even after raw material has been procured unwanted contaminants can enter accidently or if precautions have not been taken during storage or transportation. Transport and store consumable materials with covers. Separate and store consumable foods, raw materials and non food items. Ensure that during transportation pathogen growth and toxin formation is negligible. Control time, temperature and minimize exposure and use safe water for cleaning so contamination is prevented. Receive and store chilled &high risk foods at below 5°C temperature and frozen food at -18°C or below. Use containers made of food grade material to store raw paste and sauces. Keep these properly covered and check them regularly for fungal growth, deterioration etc. Use racks/pallets which are made of non-absorbent material, provided on the floor for keeping raw material. Rotate raw materials as well as finished food material systematically either on a FIFO (First In First Out), FEFO (First Expired First Out) and FMFO (First Manufactured First Out) basis. If you follow these precautions you will be able to serve healthy and safe food to consumers and you will feel proud of your good reputation for being a reliable and responsible food business operator.

7. MANUFACTURING PROCESS:

Raw materials procurement, segregation, dry storage, chill storage, Frozen storage, preparation, sizing, washing, pasteurizing, Biologically treatment, cooking, mixing filling retort packing,cooling drying, etc.

8. MANPOWER REQUIREMENT :

The enterprise requires 10 employees as detailed below**:**

Sr. No.	Designation	SALARY	Salary ₹	Number of Employees				
	Working Staff		**PER ANNUM**	**Year-1**	**Year-2**	**Year-3**	**Year-4**	**Year-5**
1	Production Manager	18000	36000	2	2	2	3	3
2	Operators	12000	60000	5	5	5	7	7
3	Helpers	10000	100000	10	10	10	12	12
			196000	17	17	17	22	22
1	**Fixed Staff:**							
2	Admin Manager	15000	30000	2	2	2	2	2
3	Accounts/Stores Assistant	12500	50000	4	4	4	4	4
	Office Boy	9000	27000	3	3	3	3	3
	Sub-Total		107000	8	8	8	8	8
	Total		303000	25	25	25	30	30

9. IMPLEMENTATION SCHEDULE:

The project can be implemented in 9 months' time as detailed below:

Sr. No.	Activity	Time Required *(in months)*
1	Acquisition of premises	2.00
2	Construction (if applicable)	2.50
3	Procurement & installation of Plant & Machinery	2.50
4	Arrangement of Finance	1.00
5	Recruitment of required manpower	1.00
	Total time required *(some activities shall run concurrently)*	9.00

10. COST OF PROJECT:

The project shall cost ₹ 650.00 lacs as detailed below:

Sr. No.	Particulars	₹ in Lacs
1	Land	100.00
2	Building	180.00
3	Plant & Machinery	250.00
4	Furniture, other Misc Equipments	5.00
5	Other Assets including Preliminary / Pre-operative expenses	25.00
6	Margin for Working Capital	90.00
	Total	**650.00**

11. MEANS OF FINANCE:

Bank term loans are assumed @ 75 % of project cost.

Sr. No.	Particulars	₹ in Lacs
1	Promoter's contribution	162.50
2	Bank Finance	487.50
	Total	**650.00**

12. WORKING CAPITAL CALCULATION:

The project requires working capital of ₹ 90.00 lacs as detailed below:

Sr. No.	Particulars	Gross Amt	Margin %	Margin Amt	Bank Finance
1	Inventories	45.00	0.25	11.25	33.75
2	Receivables	22.50	0.25	5.63	16.88
3	Overheads	22.50	100%	22.50	0.00
4	Creditors	-		0.00	0.00
	Total	90.00		39.38	50.63

13. LIST OF MACHINERY REQUIRED:

Land Requirement – 6000 Sq Mt AND Build Up Area – 1500 Sq Mt Utilities are WATER 40000 Liters / Day and ELECTRIC POWER 125 HP FUEL Coal (5 MT/Day)

Sr. No.	Particulars	UOM	Qtty	Rate (₹)	Value (₹ in Lacs)
	Plant &Machinery / Equipments				
a)	***Main Machinery***				
1	Blancher,Hand Flange Rectifier	Nos	1		55.00
2	Stainless Steel Vessels	Nos	6		85.00
3	Pulverizer, Automatic Slicer	Nos	1		15.00
4	Potato Peeler,Pulper	Nos	1		45.00
5	Utility Equipments		1		21.00
	Installation, Taxes AndTransportation				29.00
	Sub-Total				**250.00**
	Furniture / Electrical Installations				
a)	Office Furniture	LS	1	150000	1.50
b)	Stores Cupboard	LS	1	250,000	2.50
c)	Computer & Printer	LS	1	100000	1.00
	Sub Total				**5.00**
	Other Assets				
a)	Preliminary And Preoperative				25.00
	Sub-Total Other Assets				25.00
	Total				**280.00**

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 VibrotechPvt. 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

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	270.00	315.00	360.00	405.00	450.00
3	Raw Materials & Other direct inputs	₹. In Lacs	194.11	226.46	258.82	291.17	323.52
4	Gross Margin	₹. In Lacs	75.89	88.54	101.18	113.83	126.48
5	Overheads except interest	₹. In Lacs	24.67	26.21	29.30	30.22	30.84
6	Interest @ 10 %	₹. In Lacs	48.75	48.75	32.50	24.38	19.50
7	Depreciation @ 30 %	₹. In Lacs	175.00	125.00	87.50	62.50	56.25
8	**Net Profit before tax**	₹. In Lacs	**-172.53**	**-111.43**	**-48.11**	**-3.27**	**19.89**

The basis of profitability calculation:
This unit can have revenue of amount 450 lacs/year. 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 39.80 % of projected capacity as detailed below:

Sr. No.	Particulars	UOM	Value
1	Sales at full capacity	₹. In Lacs	450.00
2	Variable costs	₹. In Lacs	323.52
3	Fixed costs incl. interest	₹. In Lacs	50.34
4	BEP = FC/(SR-VC) x 100 =	% of capacity	39.80%

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 Labelling
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 centres/ collection centres 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 centre associated with the retail chain of outlets with facilities like cold room/ cold storage/ ripening chamber.

18. TRAINING CENTERS AND COURSES

There are few specialised 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

Udyamimitra portal (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.