

Sector	Agro and Food Processing
Sub - sector	Food Processing
Project No.	AF-08
Project Title	Instant vegetables in retort pouches

Project Description

The proposed project envisions setting up of a manufacturing unit for instant vegetables in retort pouches. The product manufactured by unit will falls under ready to eat (RTE) food category.

Product Application

Ready to eat foods (RTE) are convenience foods, enclosed in aluminum 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 specialty or multi cuisine restaurant & food joint only.

Market & Growth Drivers

The global traded quantum of RTE food for the year 2004-2005 was 503087 MT approx & valued at around US \$ 814 million.

The global market of food processing industry is estimated at more than US \$ 69 billion.

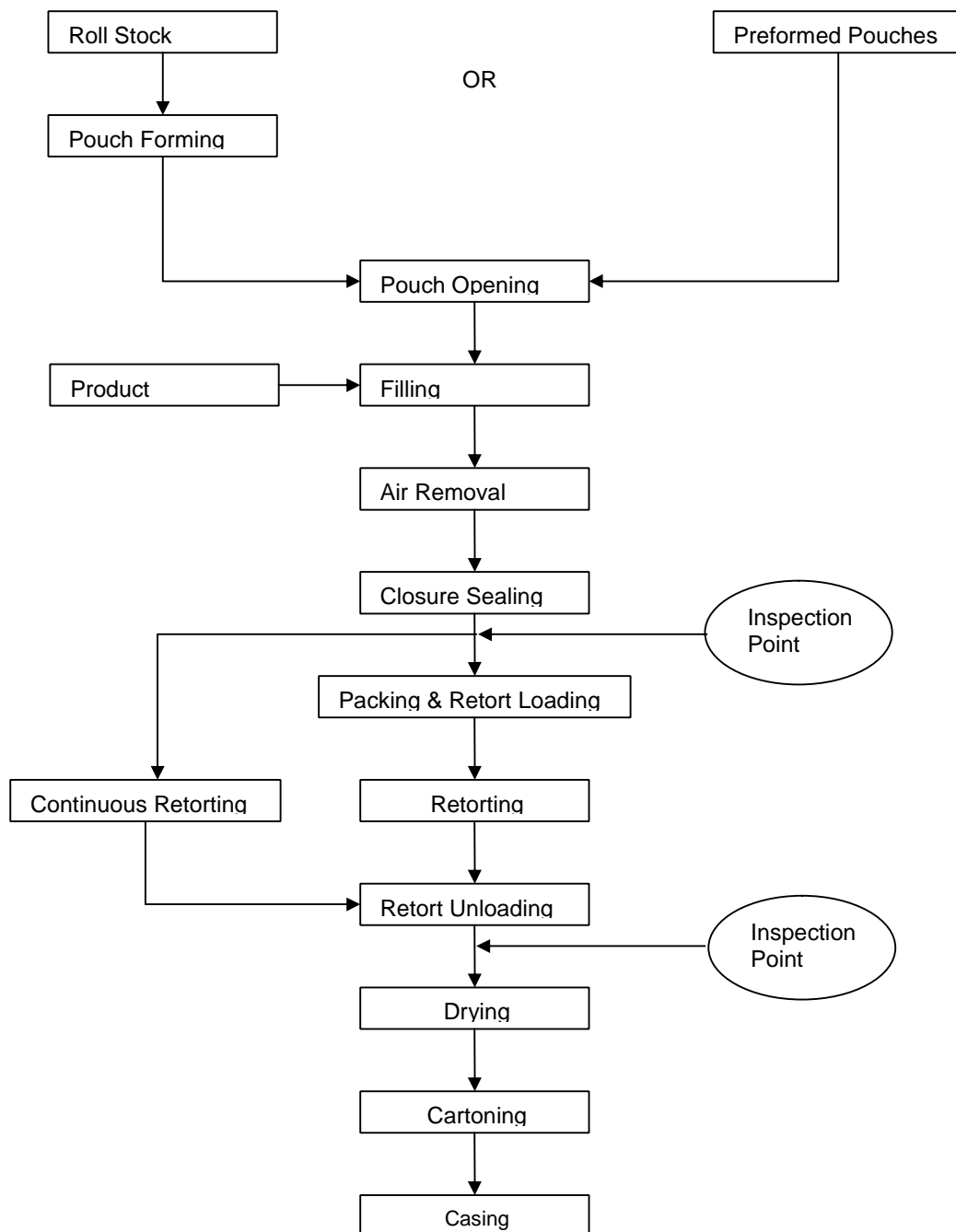
Domestic market for semi processed and RTE packaged food industry is estimated to be over US \$ 1 billion with growth rate of 20%.

As per industry estimates by year 2009, Indian market for frozen and processed foods products will be INR 6.67 billion, with West India leading the race buying 1172000 tons of processed foods valuing around INR 2.31 billion followed by North India with estimated sales of 1130000 thousand tons valued at INR 2.27 billion.

A few exporters of ready to eat food in India are

- Shri Venue exports – Mumbai,
- Britto Exports – Chennai,
- Gujarat State Export Corporation – Ahmedabad
- Tasty Bite Eatables, MTR Foods, ITC Foods,
- Satnam Overseas – New Delhi, ADF Foods etc.

Tasty bite has US factory production capacity of 100000 meals per day, while the Indian outlet has around 50000 meals per day capacity.



Technology for Retort pouch manufacturing is available from CFTRI- Mysore and machinery suppliers. 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.

Raw materials

The proposed project will require various vegetables like onion, potato, tomato, cauliflower etc other ingredients like salt, garlic, spices, oil, yogurt, French beans, Chhole, Green peas, carrot, capsicum etc; to manufacture the proposed final product. The following table reviews the availability of fresh

vegetables in Gujarat, as raw material in the state for last 5 years. Apart from this other input materials like pure and blended spices, vegetable oils, Paneer (Cottage Cheese) etc; are also readily available in Gujarat at competitive rates, hence it will give benefit of lower manufacturing cost to proposed unit.

Fresh Vegetables Area and Production in Gujarat for Last 5 Years

Sr. No	Vegetable		Year					Total
			2001-02	2002-03	2003-04	2004-05	2005-06	
1	Potato	(A)	40163	35794	31211	43268	40992	191428
		(P)	978358	780001	704099	978182	1088530	4529170
2	Onion	(A)	20344	25020	51497	58475	84914	240250
		(P)	417797	717441	1315353	1340564	1876603	5667758
3	Brinjal	(A)	40884	36494	50929	49200	62663	240170
		(P)	555044	531312	732114	745624	982623	3546717
4	Cabbage	(A)	11782	10381	14097	14377	19046	69683
		(P)	189706	179674	249101	255170	329236.7	1202888
5	Okra	(A)	30380	26402	35190	35908	40995	168875
		(P)	196467	183303	273699	299136	350344.2	1302949
6	Tomato	(A)	20919	18755	22912	22809	29284	114679
		(P)	270854	321357	420689	421888	650006.4	2084794
7	Cauli Flower	(A)	9694	9454	10837	12474	16140	58599
		(P)	156585	170475	196075	217011	277788.6	1017935
8	Cluster Bean	(A)	18973	15898	18448	18851	25929	98099
		(P)	109215	80247	134837	132742	185686.3	642727.3
9	Cow Pea	(A)	4537	3682	6937	11377	18803	45336
		(P)	23899	23193	42432	103578	161985.3	355087.3
10	Others	(A)	43027	66283	83324	64693	41418	298745
		(P)	355162	528153	511417.5	373080	405438.1	2173251

Source: Directorate of Agriculture, Gujarat. Area (A) in Hectare, Production (P) in MT.

Suggested Plant Capacity & Project Cost

The proposed project has a plant capacity of 1500 TPA which will produce 975 MTPA of finished product considering 65% utilization for the first year.

Capital cost is estimated to be INR 45 million (US \$ 1 million).

Estimated Project cost & Means of finance

Sr. No.	Cost of project	INR in Million
1	Land and Land development	2.25
2	Building & Civil works	4.5
3	Plant & Machinery	25.00
4	Misc. Fixed Assets	2.15
5	Preliminary & Pre-operative	2.00
6	Provision for contingencies	4.00
	Total Fixed Assets	39.90
7	Margin Money for working capital	5.10
	Total	45.00
	Means of Finance	
8	Promoters contribution	15
9	Term loan	30
	Total	45

As indicated above, the proposed project will require an approx 3000 sq. mt of land with proposed built up area of 1500 sq. mt. Considering 300 working days in a year the unit is proposed to have an installed capacity of 1500 TPA.

The total fixed cost of the project is estimated at INR 39.9 million and INR 5.1 million will be as working capital margin, which will make estimated Block capital cost of INR 45 million. The unit being proposed to cater to domestic as well as International demand is suggested to have a Debt is equity ratio of 2:1. Thus, the estimated term loan amounts to INR 30 million and Equity at INR 15 million.

Plant and Machinery Required

The proposed project would require the following as basic and necessary plant and machinery:

Sr. No	Particulars	Quantity	Suppliers
1	Blancher	3	Shriram Temp Xchangers, Vadodara
2	Pulveriser	3	Kaps Engineer, Vadodara Shriram Temp Xchangers, Vadodara
3	Automatic Slicer	3	Shiva Engineers, Pune
4	Potato Peeler	3	Global Agri Tech Engineer, Vadodara Honey Comb Products, Ahmedabad
5	SS Steam-jacketted Kettle / SS Process equipments	3	Lakshmi Engineering Works, Chennai Sifter International, Haryana
6	Pulper	3	Shriram Temp Xchangers, Vadodara Sanjivan Industries, Mumbai
7	Can Sealer	3	D.K. Barry & Co. Pvt. Ltd, New Delhi
8	Hand Flange Rectifier	3	D.K. Barry & Co. Pvt. Ltd, New Delhi
9	Can reformer with flanger	3	D.K. Barry & Co. Pvt. Ltd, New Delhi
10	Can Seamer	3	D.K. Barry & Co. Pvt. Ltd, New Delhi
11	Mini Boiler	3	Sanjivan Industries, Mumbai
12	SS Tanks and other miscellaneous accessories	3	Geetha Food Engineering, Mumbai
13	Vegetable washer	3	Global Agri Tech Engineer, Vadodara Shriram Temp Xchangers, Vadodara
14	Exhaust box	3	Shriram Temp Xchangers, Vadodara

Utilities

The unit would need utilities like water, electric power and fuel for roasting. 40000 liters water, 125 HP power and 5 MTPD Coal / FO as fuel, would be a basic requirement on per day basis for the proposed unit.

Estimated Man Power Required

Estimated total manpower requirement for the proposed unit is 20 persons, that will include 3 people at Managerial grade, 8 people staff in manufacturing section, 2 persons in Quality control, and 7 other staff members for other departments including purchase and marketing assistants.

Suggested Location

The suggested locations for proposed instant vegetables and retort pouch making unit are Ahmedabad, Kheda, Anand, Vadodara, Surat, Bharuch, Valsad and Sabarkantha districts.

Project Time Line

The proposed unit will take 5 to 6 months Time in obtaining necessary clearances from concerned authorities and 10 to 12 months for implementation.

Financial Indicators

Based on the profitability projections worked out for the proposed project, key financial indicators are as summarized below:

Key Financial Indicators

Sr. No	Financial Ratios	1st year	2nd year	3rd year
A	Break-Even Point in % capacity	45.57	40.67	35.93
B	Debt-service Coverage Ratio	1.66	1.99	2.38
C	Average DSCR	2.01		
D	Return on Investment (ROI)	21.70	25.10	28.53
E	IRR	41 %		

As observed from the table of Project cost and Means of finance, the suggested Debt Equity Ratio for the proposed project is 2:1. The IRR (Internal Rate of Return) for the proposed project is approx. 41% for a projected period of 10 years.

Clearances required

The proposed unit will have to register their manufacturing capacity with Industrial Entrepreneur's Memorandum (IEM), Secretariat of Industrial Approvals, Ministry of Industries and Government of India, as it will have plant and machinery investment of more than INR 10 million.

The most critical aspect of this product will be its shelf life for export consumers and hence there will be a need to import preservatives and other ingredients, meeting FDA regulations of export destinations-countries and Codex standards followed by them.

All food items packaged and sold in the market have to get safety seal PFA (prevention of food and adulteration) certification. Being an EOU the unit will have to follow strict quality standards as

accepted in the destination-countries. It is obligatory to meet provisions under the PFA act for all ingredients and quality aspects for marketing product in Indian market.

Domestic food processing unit needs no license. A unit opting to export should have quality control license valid for all producers of processed items. Permission from MOFPI is also to be sorted.

Agencies to be Contacted

Industrial Extension Bureau

Mott MacDonald India

Gujarat Agro Industries Corporation Ltd.