

ICE CREAM CONE MAKING

1. INTRODUCTION:

Ice cream cones are a mass consumption item. An ice cream cone, poke or cornet is a dry, cone-shaped pastry, usually made of a wafer similar in texture to a waffle, which enables ice cream to be held in the hand and eaten without a bowl or spoon. Ice creams are available in many varieties and flavors and are served in many ways such as cups, cones, bricks, candies, slices etc. With the change in life style ice creams are now consumed round the year. The most popular method of serving ice- cream perhaps is in cones as it is neat & clean, easy to store, and does not have any disposal problem. Various types of ice cream cones include wafer (or cake) cones, waffle cones, and sugar cones.

2. PRODUCT & ITS APPLICATION:

Ice-Cream cones are prepared from wheat and corn flour and they are eaten along with the ice-cream. Pre-determined quantity of ice-cream is filled in the cone these cones are not only convenient to handle but there is no residual waste as well. These can be manufactured in different colors and have both urban as well as rural market. Compliance of the product with FPO is essential.

3. DESIRED QUALIFICATIONS FOR PROMOTER:

Do not require any specific qualification.

4. INDUSTRY LOOKOUT AND TRENDS

Continuing consumer preference towards natural based food products along with increasing prevalence towards health safety will drive organic ice cream market

growth. Global organic industry has registered over 86 billion in 2016 and is set to see over 40%. Growing organic product consumption among millennial due to increased preference for healthy products even at premium prices will stimulate demand.

Global ice cream spending was over USD 55 billion and consumption surpassed 23 billion liters in 2016 with China and the U.S. being the largest consumers. Annually, China surpassed 6-billion-liter consumption in 2016. However, the U.S. is predicted to remain dominating the global organic ice cream demand.

Rising product usage for preparing other products including shakes, brownies and smoothies are opening new avenues for organic ice cream market expansion. Increasing consumer acceptance for homemade ice cream due to presence of extensive distribution platforms will positively influence organic ice cream market growth. Grocery retail outlets expansion due to positive FDI policies in Brazil, India, China, New Zealand, and Australia will propel product demand.

Stringent regulations including the U.S. Code of Federal Regulations, pertaining to food product specification will promote demand. The regulations are focused on standardizing ice cream ingredients for balancing protein, fat, and sugar level. Limited availability of organic milk along with high price will continue to impact profitability. Product innovation including non-dairy organic ice cream production consisting coconut and almond milk will open new avenues & scope in the industry.

5. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:

The changing life style and habits have given rise to the increase in demand of ice-cream. Now days it is a common sight of ice cream being served at marriage parties even during winter. Majority of the consumers prefer ice creams in cups or cones for convenience. Serving in cups requires additional spoons for eating and disposal of the cup after consumption, while service in cones is hassle free as cones are eatable and consumed along with the ice cream. Ice creams are now popularly marketed under brand names as well as unbranded variety locally manufactured in semi urban areas. There is a good market for local variety in both semi urban and rural areas. The unbranded local variety is cheaper and hence is preferred particularly by the middle class families with limited means. In rural areas also children prefer the cheap ice creams as compared to the branded costly variety. Thus, there appears to be a good market for the product in semi urban and rural areas. The marketing strategy should focus on such locations and the approach the big branded manufacturers for a possible tie-up.

6. RAW MATERIAL REQUIREMENTS:

Three main dry ingredients compose all types of cones. Wheat flour, corn flour, and sugar are chosen for baking quality, strength, and relative sweetness, respectively.

The quantity of sugar is a major distinguishing feature between cone types. Sugar and waffle cones are made of one-third sugar. Not only does this influence the sweet flavor, but it affects the brown finished color and the crispy texture. Cake cones have less than 5% sugar.

Wet ingredients (and others added with the wet materials) include water, shortening (edible fat or grease), coloring, flavoring, and salt. Both the coloring and flavoring are natural products made by outside specialists.

7. MANUFACTURING PROCESS:

The process of edible cone making is basically a mechanical press operation. Initially corn and wheat flour is mixed with water and required quantity of colors and flavors are added. This dough is then fed to the mould of the cone making machine. The press is operated and the molded cones are baked separately and packed.

Some important points to remember during dough preparation:

The wafer quality depends on the accuracy of the dough, particularly as far as weighing and mixing are concerned. In the course of the whole mixing process, the consistency changes due to material dissolving and swelling processes, gluten development and reactions with other raw material.

The important process during mixing is dissolving and swelling of the flour components. This is decisive for the quality of the baking process and the wafer sheet and for the energy demand during baking; the water added during dough preparation has to be vaporized again during baking. When a certain consistency is reached, the mixing process is finished, particularly when a uniform mixing of all ingredients allows for a smooth flow of the dough on the baking plates/cone baking dies.

Leave the dough for 5 minutes, and to pass it through a sieve afterwards in order to hold back the particles, which have not dissolved completely. The dough will swell again. If flour with higher level of coarsely ground grain is used, the dough should be left for about 10 minutes. The longer the dough can rest; the better will be its flow.

8. MANPOWER REQUIREMENT:

The enterprise requires 9 employees as detailed below:

Sr. No.	Designation of Employees	Salary Per Person	Monthly Salary	Number of employees required				
				Year-1	Year-2	Year-3	Year-4	Year-5
1	Un Skilled Workers	8,000.00	16,000.00	2	2	2	2	2
2	Accountant	8,000.00	8,000.00	1	1	1	1	1
3	Store Keeper	6,000.00	6,000.00	1	1	1	1	1
4	Sales Supervisor	9,000.00	9,000.00	1	1	1	1	1
5	Security Personnel	6,500.00	6,500.00	1	1	1	1	1
6	Manager	20,000.00	20,000.00	1	1	1	1	1
7	Skilled Labour	10,000.00	10,000.00	2	2	2	2	2
	Total		65,500.00	9	9	9	9	9

9. IMPLEMENTATION SCHEDULE:

The approximate time required for various activities is given below. However, it may vary from place to place depending upon the local circumstances and enthusiasm of the entrepreneur:

Sr. No.	Activity	Time Required (in months)
1	Scheme Preparation and Approval	0-1
2	EM Part-1 Registration & Preparation of Project Report	1-2
3	Sanction of loan	2-5
4	Clearance from State Pollution Control Board	3-4
5	Placement of order for machinery and delivery	4-5
6	Installation of machines	6-7
7	Power connection	6-7

8	Trial Run	7-8
9	Commercial Production	9 months onwards
	Total time required	9

Due to overlapping of some activities, normally 6-9 months are required to implement the project.

10. COST OF PROJECT:

The project shall cost INR 27 lacs as detailed below:

Sr. No.	Particulars	INR in Lacs
1	Land	7.50
2	Building	3.20
3	Plant & Machinery	6.90
4	Furniture, Electrical Installations	1.00
5	Other Assets including Preliminary / Pre-operative expenses	0.69
6	Margin for Working Capital	7.71
	Total	27.00

11. MEANS OF FINANCE:

Bank term loans are assumed @ 60% of fixed assets. The proposed funding pattern is as under:

Sr. No.	Particulars	INR in Lacs
1	Promoter's contribution	6.75
2	Bank Finance	20.25
	Total	27.00

12. WORKING CAPITAL CALCULATION:

The project requires working capital of INR 7.71 lacs as detailed below:

Sr. No.	Particulars	Gross Amt	Margin %	Margin Amt	Bank Finance
1	Inventories	3.86	0.25	0.96	2.89
2	Receivables	1.93	0.25	0.48	1.45
3	Overheads	1.93	100%	1.93	0.00
4	Creditors	-		0.00	0.00
	Total	7.71		3.37	4.34

13. LIST OF MACHINERY REQUIRED:

A detail of important machinery is given below:

Sr. No.	Particulars	UOM	Qty	Rate (INR)	Value
					(INR in lacs)
1	Automatic ice cream cone manufacturing machine which includes Sifter, dough kneader, Cone making machine automatic, sugar pulverizer, weighing scales, etc.	NOS	1	INR 650,000.00	6.50
2	Lab Equipments			INR 40,000.00	0.40
	<i>sub-total Plant & Machinery</i>				6.90
	Furniture / Electrical installations				
a)	Office furniture	LS	1	50000	0.50
b)	Computer & Printer	L. S.	1	50000	0.50
	<i>sub total</i>				1.00
	Other Assets				
a)	preliminary and preoperative				0.69
	<i>sub-total Other Assets</i>				0.69
	Total				8.59

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,
Bhikhubhai Mukhi Ka Kuwa Bharwadvash,
Ramol, Ahmedabad - 380024,
Gujarat, India

2. Hindustan Vibrotech Pvt. 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,
Delhi, India

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	INR In Lacs	34.56	40.32	46.08	51.84	57.60
3	Raw Materials & Other direct inputs	INR In Lacs	20.64	24.07	27.51	30.95	34.39
4	Gross Margin	INR In Lacs	13.92	16.25	18.57	20.89	23.21
5	Overheads except interest	INR In Lacs	8.38	8.91	9.96	10.27	10.48
6	Interest @ 10 %	INR In Lacs	2.03	2.03	1.35	1.01	0.81
7	Depreciation @ 30 %	INR In Lacs	4.83	3.45	2.42	1.73	1.55

8	Net Profit before tax	INR In Lacs	-1.31	1.86	4.85	7.88	10.37
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The basis of profitability calculation:

This unit will have 3000 unit/day capacity. 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 48.65% of projected capacity as detailed below:

Sr. No.	Particulars	UOM	Value
1	Sales at full capacity	₹. In Lacs	57.60
2	Variable costs	₹. In Lacs	34.39
3	Fixed costs incl. interest	₹. In Lacs	11.29
4	$BEP = FC/(SR-VC) \times 100 =$	% of capacity	48.65%

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 Labeling
- 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

centers/ collection centers 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 center associated with the retail chain of outlets with facilities like cold room/ cold storage/ ripening chamber.

18. TRAINING CENTERS AND COURSES

There are few specialized 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-Baap ki Dargah,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,
Loni Kalbhor, 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.

Source:- Udyami Mitra/Sidbi