CHAPTER-2

Ice Cream Market in India

- Historical Origin of Ice Cream
- Current Scenario in India
- The Changing Scenario
- Working Terminology used in Ice Cream Production and Marketing
ICE CREAM MARKET IN INDIA

Historical Origin of Ice Cream:

a) Origin in the Western World

Ice Cream is not a product of Indian Origin. The available literature does not confirm the origin of this product except certain indication of possibility. It is said that the Romans used snow and ice for chilling beverages and foods, and that Marco Polo brought back from his travels in the Orient a recipe for water ices supposedly thousands of years old. Some postulations mention that, on special occasions, the imperial court of China often served a desert made with frozen milk. This recipe later reached Europe. Ice Cream was created in the 16th Century when someone used cream instead of milk.

Hints turn up here and there about various frozen concoctions appearing in royal courts of medieval England and France. The best guesses as to the origins of ice cream per se point to fifteenth or sixteenth century Europe (Dickson, 1978, p.14).

An anonymous manuscript dated circa 1700, L’Art de Faire des Glaces, is the earliest significant writing on the preparation of ice cream and water ices (Dickson, 1978, p.78). The Art of Cookery made Easy, by Hannah Glass, was printed in London in 1747 and contained the following recipe:

“To Make Ice Cream:

Take two pewter basins, one larger than the other, the inward one must have a close cover, into which you are to put your cream, and mix it with raspberries, or whatever you like best, to give it a flavour and a colour. Sweeten it to your palate; then cover it close, and set it into the larger basin. Fill it with ice, and a handful of salt: let it stand in this ice three quarters of an hour, then uncover it and stir the cream well together: cover it close
again, and let it stand half an hour longer, after that turn it into your plate. These things are made at the pewters.”

The definition of Ice Cream in UK is “the frozen product intended for human consumption, which is obtained by subjecting an emulsion of the fat, milk solids and sugar, with or without the addition of other substances, to heat treatment and either to subsequent freezing or to evaporation, addition of water and subsequent freezing, whether or not fruit, fruit pulp, fruit puree, fruit juice, sugar, flavouring or colouring materials, nuts, chocolate or other similar substances have been added before or after freezing and includes any ice cream present as an ingredient of any composite article of food, but does not include any sherbet, water ice or ice lolly.”

Apparently also, the Ice Cream did not originate in the United States of America, but certainly it was popularized and industrialized in USA. The commercial origins of Ice Cream in USA can be dated back to 1774 AD. In the first recorded public mention of ice cream, a caterer named Phillip Lenzi announced in a New York newspaper that he had just arrived from London and was prepared to supply ice cream and other confections, on special order, to a limited clientele (IAICM, 1986, p.6). Like European royalty, some early national leaders of USA enjoyed ice cream in their homes. Historical record has evidenced that George Washington clearly had a taste for ice cream and even purchased a “Cream Machine for making ice,” as well as keeping “two pewter ice cream pots” at his Mount Vernon home (Dickson, 1978, pp. 22-23). Thomas Jefferson devised an eighteen-step process for its manufacture while he was in France. During Jefferson’s presidency, the official White house hostess, the wife of Jefferson’s secretary of state, was Dolley Madison who in this role glamorized ice cream by serving it at state dinners. The Ice Cream was constantly served as a dessert at the White House during the early days of USA. Thus, many of the first ice cream makers of USA learned their craft from there. In 1832, one of the first retail ice cream business in Philadelphia was opened by Augustus Jackson, a former White House cook (Dickson, 1978, p.24). During the first half of the nineteenth century, ice cream grew in popularity throughout the United States, but it remained, as most other foodstuffs, a ‘home made’ product being produced in the
kitchens of the moderately well-to-do or by caterers on a home-made basis. The first factory of Ice Cream in USA was opened in the year 1851 and from that year onwards, the growth of the industry was enormous. The first recorded production is of 4000 US gallons in 1859; and by 1899, the figure had risen to 5.5 million gallons. Presently USA is the largest producer of Ice Cream in the world.

The other countries like Japan, UK and Italy have also made enormous progress in producing and marketing ice cream their countries. They have been able to produce most modern machinery and equipment, and created a number of combinations, flavours, novelties and confectionery items, and perfected various techniques to make, this item as a safe food.

b) Entry of Ice Cream to India:
In India, the ice cream is a relatively late entrant. A restaurant at Calcutta, named MAGNOLIA, run by an Italian Caterer, was the first establishment to make ice cream on western lines. However, it was only in the year 1956, that ice cream machinery and plant, with other equipment were imported into India by Kwality Ice Creams and operations were undertaken on a commercial scale in their factory at New Delhi. By the end of the same year, another factory was established by Kwality Ice creams at Bombay. Subsequently Ice Cream Manufacturing facilities were created at cities like Calcutta and Madras and other townships and Ice Cream manufacture has become a commercial industry.

Presently India is the third largest producer of ice cream followed by USA and Japan as first and second respectively. Until recently, the ice cream was regarded as a luxurious food in India because of the high market prices.

CURRENT SENARIO IN INDIA:

a) Import of Machinery and Equipment:
Ice cream manufacturing is an exclusive type of business, as this product is highly perishable; and accordingly, right from the stage of production to the ultimate delivery to the consumer it has to be kept, stored and transported in frozen condition. The primary
requirement is a large investment for constructing a modern factory, installation of machinery and equipment by imports from Europe, UK and USA, construction of cold store rooms which would maintain the required refrigeration temperature for stored product, and for undertaking all other arrangements for distribution and sales. A large staff, fully experienced and trained in this line of refrigerated product for production, and operation and maintenance of all the machinery and equipment is an important aspect.

b) Industry Classification: Small scale industry

Ice Cream manufacture has been placed under ‘Small Scale Industries’ by the Government of India from the beginning of its commercialization and presently also it is covered under the Small Scale Industries. This classification of the industry has restricted growth of the Ice Cream industry at a national scale and precisely because of this reason the industry remained at a highly fragmented state. The supporting industries for manufacturing the equipment for production and marketing of Ice Cream could not develop in the country and if anything was done it was localized and at a very rudimentary scale. Therefore, all the modern equipment have to be imported from other developed countries of Europe or USA where due to high cost of labour, the costs keep on rising. The levy of customs duty in India is a large burden and then there are excise duties claimed on certain equipment and composite machinery. Thus the installation cost of a single unit is high in Indian condition.

c) Legal Standard: 10% Milk fat mandatory

The legal standard prescribed for ice cream production in India constitutes 10% milk fat. This is also the federal standard of United States of America, United Kingdom and other European countries. According to their commercial and economic interests, these countries restrict production of ‘Dairy Ice Cream and Milk Ice’ to milk fat only and all other categories of ice cream are permitted to be produced with vegetable fats. This legal facility permits ice cream being manufactured, both, for catering to the requirements of affluent society and of the average citizen at reasonable prices. In Indian situation, the restriction of Ice Cream to milk fat has proved ice cream to be a high priced product and
a luxurious estable for all these y~ars since the price of milk fat remained always at a higher level.

d) Low Per Capita Consumption:
The per capita consumption of Ice Cream in India has remained way behind the level of the developed countries and even behind the other Asian Countries. In North America, the per capita consumption of Ice Cream is estimated to be 30 litres per annum. The Indian per capita consumption of Ice Cream is about 125 ml (one scoop) per year where as the per capita figure of its neighboring Asian countries like Pakistan is 3 times higher and that of Thailand is 10 times higher. The western region of India has a much higher consumption than the all-India average. In the western region, primarily in Gujarat, a retailer, on an average, sells three litres of ice cream per day. The Western and Northern regions put together, account for about 70 percent of the total sales. According to industry estimates, eight cities account for 60 percent of the national consumption.

e) Largely Local Marketing: Few Regional/National Brands:
Historically, in India, since its commercial inception, the ice cream business remained largely as a localized product confined to a city or township or a small region where the manufacturer was located. Very few brands even operated across the states. The handful of Brands which were relatively well known across the states and regions are:
Kwality- in Delhi, Bombay, Calcutta and eastern region.
Vadilal – Mainly in Gujarat, to some extent in Bombay.
Milk Food- in Delhi and Northern Region
Dollops - in South.

g) Dominance of Non-Organized Sector in the Past: Changing now:
The business remained in the non-organized sector to a large extent until the nineteen hundred eighties. The ice cream was regarded as a high priced product of luxury. Around nineties, this industry has undergone changes in its orientation. From occasional outdoor celebrations to an all-family delight is a big leap in ice cream consumption in the country. There has been a shift from impulsive buying to a coveted brick of ice cream in the
household fridge. The corporate sector has also recognized ice cream industry as an avenue for expansion, growth and profitable business. After liberalization of Indian Economy in 1991, the multinational corporations have entered this field which itself is a recognition of the potential of this industry. There is a highly competitive market with the following player composition:

1. Organized Sector: 150 players having ...60 % market share
2. Non-organized Sector: 2000 players having...40 %market share.

h) Size of the Indian Ice Cream Market:
India’s ice cream market, over a period of time has grown to a remarkable size. In 1996, the Indian Ice cream market was of the size of 216 million litres which could be valued at Rs 1000crores plus. The estimated region wise sales figures of organized sector during the year 1996 are as follows:

Table: 11 Regionwise Sales of Ice Cream in the Organized Sector in India, 1996.

<table>
<thead>
<tr>
<th></th>
<th>North</th>
<th>West</th>
<th>South</th>
<th>East &amp; Central</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume in million litres</td>
<td>39</td>
<td>52</td>
<td>26</td>
<td>13</td>
<td>130</td>
</tr>
<tr>
<td>Value in Rs. millions.</td>
<td>1700</td>
<td>2250</td>
<td>1100</td>
<td>550</td>
<td>5600</td>
</tr>
<tr>
<td>Percentage (%) of Share</td>
<td>30</td>
<td>40</td>
<td>20</td>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>

(Source: Dairy India, 1997 pp.242)

The Indian ice cream market is growing by 25% per year and thus its present size in 1999 could be projected to reach the level of 420 million Litres and Rs.2000 crores.
The Changing Scenario:
The most significant development in the rapidly changing scenario of ice cream industry has been the entry of the giant multinational Brooke Bond Lipton India Ltd. (presently known as Hindustan Lever Limited after their merger) of the Unilever Group of UK in mid-1993 with their international brand of Ice Cream ‘Walls’. The multinational had got first into strategic alliances with Cadbury’s (the multinational famous for its chocolates and Dollop brand of Ice Cream), Kwality (the first and the largest ice cream company in India then—brand: ‘Kwality’) and Milkfood (a strong brand of ice cream of Delhi and North India) between July 1993 and April 1995. Subsequently Hindustan Lever has gone for acquisition of all these units to make its umbrella brand ‘Kwality-Walls’. Around 1997, Hindustan Lever had emerged as the market leader with 53% of market share. The sales turnover of Liptons was Rs.120 Crores in 1995 which grew to the level of Rs200 crores in 1996 and it is expected to touch or surpass the figure of Rs.1000 crores by the year 2000. Hindustan Lever has also planned for an investment of Rs.300 crores during this period.

The other noticeable multinational intervention in the ice cream market is of the mega-brand of U.S.A., i.e. ‘Baskin Robbins’. They have also established their exclusive outlets in Bombay and Ahmedabad and are rolling out to other major cities to fetch the pockets of the higher income group of ice cream consumers. ‘Baskin Robbins’ is a very high priced brand and is looking at the ‘Up Market’ segment. At the time of their launch of ice cream in Bombay in 194-95, it was seen that the consumers were queuing to buy a cup of Baskin Robbins ice cream.

The Co-operative sector of Dairy Industry, led by National Dairy Development Board and the strong and famous Brand of Dairy products ‘Amul’ has also woken up to encash the potential of the ice cream market in its favour. The National Dairy Development Board (NDDB) had already established an ice cream plant at Mother Dairy, Delhi around 1994 and the Mother Dairy has been marketing their ‘Mother Dairy’ brand of ice cream very successfully in the metro-city of Delhi. The Gujarat Co-operative Milk Marketing Federation, through one of its constituents, Boroda District Co-operative Milk Producers Union, Boroda had initially established an Ice Cream Plant at Sugam Dairy, Boroda and
has been marketing a successful brand of Ice Cream ‘Sugam Ice Cream’ since the year 1994-95. After entry of the multinationals into the Indian ice cream market which is nothing but an entry into the Dairy industry; which was dominated by the Co-operative Sector led by National Dairy Development Board for almost three decades with strong entry barriers of regulatory and legislative nature, the co-operatives have come up with their brands of ice cream to create further entry barrier and strong competition for the multinationals who would tend to expand and entrench rapidly since the ice cream business has proved to be rewarding and profitable. The most significant move of the National Dairy Development Board and the co-operatives in this direction has been the launch of ‘Amul’ brand of ice cream in March, 1996 by Gujarat Co-operative Milk Marketing Federation Limited, the apex co-operative dairy federation of Gujarat having annual sales turnover of around Rs2000 crores from their business of dairy products and edible oils. The ‘Amul’ ice cream was first launched in Gujarat in March, 1996 by production of the ice cream at Sugam Dairy, Baroda. Then the product was extended to Bombay market towards end of 1996. In 1997, the Amul Ice Cream has been launched in Bangalore (the up coming south Indian silicon city) and the marketing has been further extended to other parts of Maharashtra, Madhya Pradesh, Rajasthan and Uttar Pradesh. The Gujarat Co-operative Milk Marketing Federation has also added one new state-of-the-art imported ice cream plant at their most modern dairy at Mother Dairy, Gandhinagar to cater to the requirement of the different expanding markets. They also get some of their requirements manufactured at the ice cream plant of Mother Dairy, Delhi under the brand name ‘Amul’. Because of the existence of Mother Dairy Ice Cream in Delhi, and as Gujarat Co-operative Milk Marketing Federation and the Mother Dairy are two associated organizations patronized by National Dairy Development Board, the ‘Amul’ brand has not been launched there in order to avoid internal competition among these two brands. The other State level co-operative milk federations who are associated with NDDB, are also selling ice cream under their local brand names. Under the changing scenario, in order to give a strong competition to the big private players like Hindustan Lever Limited, there is a move to make a strategic alliance of the co-operatives and unify all such brands under the popular brand name ‘Amul’.
All these years, the ice cream was an up-market product and the consumption was more or less restricted to larger cities and higher income group because of the higher prices of this product. The entry of the Co-operative sector, especially Amul and Mother Dairy Ice Cream, has added a new dimension to ice cream marketing by expanding the consumer base. They envisage to transform ice cream into a mass selling product through competitive and lower pricing. In 1996, when Amul Ice Cream was launched, the other brands like ‘Kwality Walls’ and ‘Vadilal’ were selling a 100ml cup of Ice Cream with Vanilla flavour (the most common and cheapest flavour) at a consumer price of Rs.9/- to Rs.12/-. At the same time, ‘Amul’ launched its ice cream at a much lower price i.e. a 100ml Vanilla Cup was priced at Rs.6/- to the consumer. Through low pricing the target was not only to win away the existing consumers but also to retch the big peripheral markets of urban areas which were restrained in ice cream consumption for the high prices. Thus there has been an attempt by these cooperatives to expand the market and enhance the consumer base and it has been successful. There is a large potential available in the middle class segment of the population, which is yet to be fully tapped. The vast population of rural areas still remain unexplored and untapped.

Since the ice cream industry was restricted to the small scale sector, the investments in the past have not been sizable in terms of total investment or in terms of individual units. Thus, not much of technical improvement has taken place in terms of supporting infrastructure such as refrigerated transportation, storage and supply chain. The technology which has been used is old and in the changing scenario it would require upgradation.

Going by the gap of per capita consumption of Ice Cream in India compared to the other countries, which has been mentioned in the foregoing paragraphs here, the ice cream industry is poised for an unprecedented growth. The role of Distribution Management for achieving and sustaining the growth is going to be very critical.
WORKING TERMINOLOGY USED IN
ICE CREAM PRODUCTION AND MARKETING

Before proceeding further into the discussion of the distribution management issues of ice cream, it would be worth while to define the working terminology of its business here in this section to make it more comprehensive for the readers.

Ice Cream Business is a specialized business and has its formal terminology which has specific meaning and implication for its trade. In fact the terminology is not known to most of the traders or the consumers. The important terminology used for this product are defined hereunder:

**Air:** A term used in conjunction with overrun. Air is incorporated into ice cream by whipping action of the dasher inside the barrel of the batch freezer. Overrun is the quantum of air whipped into the ice cream mix during the freezing process.

**Bisque:** It is the ice cream that contains either macaroons or some other bakery product.

**Bulk Ice Cream:** Ice Cream usually packed in a two and half or three gallon paper or plastic tub that is purchased by retailers for resale to the consumer as individual servings.

**Butter fat:** An ingredient made from rich sweet cream (milk cream). Egg Yolk solids and cocoa are sometimes included in calculating the percentage of butterfat in a product, but those ingredients should not be confused with the fat from the cream. The specific percentage of the butterfat is a unique characteristic of various frozen desserts. The most frequently asked question in the industry is about the percentage of butterfat in the ice cream you are producing.

**Confectioner's Sugar:** A very fine sugar, also known as 10X, sometimes used in producing ices or sorbets. It will produce, a smoother scooping product, but it will not make a sugar syrup solution.
**Corn Syrup**: A liquid sweetener that provides a firm, heavy body to finished ice cream and that improves shelf life. It is considered an inexpensive substitute for sugar, but approximately twice as much corn syrup as sugar is needed to obtain the right taste.

**Cream, heavy**: Cream that has a butterfat content of 35 percent and that can not be whipped into a thick froth.

**Cream, Light**: Cream that has a butterfat content of 20 percent and that can not be whipped into a thick froth.

**Custard**: A frozen dessert with eggs as the predominant ingredient in its base, making it similar to French ice cream. The term comes up frequently in discussions about making your own ice cream mix.

**Dasher**: The main part inside the barrel of a batch freezer. It agitates the ice cream mix into a partially frozen state with its two main components, the blades and the beater.

**Egg Yolks**: An ingredient used in ice cream to produce richness and smoothness. Too much egg yolk inhibits the freezing process and should be avoided.

**Egg yolk Solids**: An emulsifier that improves the texture and body of the ice cream. It is also sometimes considered a sweetener.

**Emulsifier**: An additive used to create smoothly textured ice cream to facilitate scooping and to provide control during the various stages in manufacturing.

**Flavorings**: All the ingredients added to and ice cream mix to provide flavor. They can be fresh ingredients such as fruits and nuts, or packaged substances such as extracts and concentrates. All non-fresh flavoring substances are classified as category-I (pure extracts), II (pure extracts with a synthetic component), or III (artificial flavors).
Freezer, batch: A piece of equipment that makes a single flavor and specified quantity of ice cream using measured flavorings and ice cream mix.

Freezer, Continuous: Ice Cream production equipment in which a continuous amount of ice cream mix is fed into one end of the freezing chamber with the partially frozen product coming out the other end.

Freezing Point: The temperature at which ice cream mix will freeze, approximately 27-28 degrees Fahrenheit depending on the sugar content of the mix. Mix with a lower sugar content will freeze at a slightly higher temperature.

French Ice Cream: A rich version of ice cream that contains at least 1.4 percent egg yolk solids. Most super premium ice cream made today contains egg yolks.

Fructose: A white crystalline powder that is very sweet and is sometimes used as a substitute for sugar. Only half as much is needed. Some diabetics can use fructose on the advice of a doctor.

Gelato: Italian Ice Cream that is low in butterfat (5-10%) with intense flavor and usually served in a softer state than regular ice cream.

Granite: Made from the same ingredients as an ice, granite is a coarser version with ice crystals formed as part of the final product. See also Ices or sorbets; Italian water ice.

Hardening: The process during which ice cream freezes to at least -15 degrees Fahrenheit after the product has been drawn from either the continuous or batch freezer. This fast freezing process usually takes 8-12 hours on a one- or two-door blast freezer or walk-in-freezer.
**Ice Cream:** A frozen dessert made from dairy products with at least 10 percent butterfat, except for chocolate ice cream that requires only 8 percent butterfat. The Federal standards of USA require finished ice cream to weigh 4 ½ pounds per gallon.

As per Bureau of Indian Standards (IS: 2802-1964), Ice–cream, fruit ice-cream, nut ice-cream, chocolate ice-cream, mean the frozen food made from heat-treated mix made out of milk, cream and/or other milk products (derived from cow and buffalo milk) and with or without sweetening ingredients, eggs, water, fruits, nuts, chocolate, permitted stabilizer/permitted emulsifier, edible common salt, permissible flavouring and colouring matter. The composition of Ice Cream prescribed in this standard is given below:

Table :12  COMPOSITION OF ICE-CREAM

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Characteristic</th>
<th>Ice-Cream</th>
<th>Fruits, Nut and Choco Icecream</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Weight in grams, per litre, min</td>
<td>525</td>
<td>540</td>
</tr>
<tr>
<td>2.</td>
<td>Total solids, percent by weight, min</td>
<td>36.0</td>
<td>36.0</td>
</tr>
<tr>
<td>3.</td>
<td>Milk fat percent, min</td>
<td>10.0</td>
<td>8.0</td>
</tr>
<tr>
<td>4.</td>
<td>Acidity percent (as lactic acid), maximum</td>
<td>0.25</td>
<td>-</td>
</tr>
<tr>
<td>5.</td>
<td>Sucrose, percent by weight, max</td>
<td>15.0</td>
<td>15.0</td>
</tr>
<tr>
<td>6.</td>
<td>Total colony counts, per gram (Standard plate count), not more than (in thousands)</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>7.</td>
<td>Coliform count, not more than</td>
<td>100/g</td>
<td>100/g</td>
</tr>
<tr>
<td>8.</td>
<td>Phosphate test of mix</td>
<td>Negative</td>
<td>Negative</td>
</tr>
</tbody>
</table>

**Ice Cream, premium:** Any ice cream product that has at least 12 percent butter fat in the mix

**Ice Cream, super premium:** Any ice cream product that has at least 14% butterfat in the mix.
**Ice Cream mix:** An unfrozen prepared mix of cream, water and sugar or other sweeteners. It can include egg-yolk and other solids.

**Ice Crystals:** The frozen portion of water in the ice cream mix. They are formed when ice cream is exposed to air (either external or air pockets within the product itself) when out of the freezer or in a freezer that is above 0 degree Fahrenheit.

**Ices or Sorbets:** All ices or sorbets are water-based and contain no butterfat, although some sorbets contain egg whites. Almost all ices are prepared with fruit.

**Italian water ice:** A lightly sweetened product that is usually made with an extract flavoring (as opposed to American or French sorbet that sometimes used pieces of fruit).

**Locust bean gum:** A stabilizer used in the production of sorbets and ices.

**Neapolitan:** A product having at least two flavors, usually fruit, in the same package.

**Overrun:** The increase in the volume amount of finished ice cream over the volume of mix used. It results from the amount of air whipped into the product during the freezing process.

**Philadelphia Ice Cream:** Ice Cream usually having no eggs in the mix.

**Reduced-fat Ice Cream:** Previously called ice milk, a frozen product containing 2-7 percent butter fat.

**Sherbet:** A frozen product, sometimes confused with ices made with fruits and containing 1-2 percent butter fat.
**Skim milk**: Milk having very little or no fat content that is widely used in commercial ice cream production because it is an inexpensive way to acquire the necessary milk solids.

**Stabilizer**: A substance added to an ice cream mix to produce smoothness and uniformity in the finished product and to enhance resistance to melting. It also reduces or retards the formation of ice crystals resulting from heat shock (changing of temperature from cold to hot and back to cold again) during storage.

**Sugar Syrup**: A solution made from hot water and cane sugar that is used in making ices or sorbets. The ratio of water to sugar (usually 2 or 3 quarts water to 1 pound sugar) varies depending on the fruits used.

**Sweeteners**: Any ingredients used to sweeten the unfrozen ice cream product; mainly sugar, fructose, honey, maple syrup, or a corn sweetener.

**Variegated ice cream**: An ice cream mixed with fudge or syrup to create a marbled effect in the finished product.

**Yogurt, frozen**: A creamy frozen dairy product that usually has fewer calories and lower sodium and cholesterol than regular ice cream. A 4-ounce serving has 100-200 calories and at least 2-4 grams of fat. Some frozen yogurts have no yogurt cultures in the product.

**Yogurt, nonfat, frozen**: Frozen yogurt that contains less than 0.5 percent fat.