CHAPTER -4
Product Planning and Development in Dairy Industry
Product Planning and Development in Dairy Industry

Product planning decides the nature and other related aspects of the articles produced and sold. It embraces all activities that enable a company to determine what products it would sell. It is the process of determining that line of products which can secure the maximum sales from the market.

Product planning is systematic decision-making relating to all aspects of the development and management of a firm's products, including branding, packaging, labeling, and product-mix decisions.¹

Aspects of Product Planning

Product planning is a wide activity. It involves the responsibility of providing new and profitable products for sale. It also involves the obligation of reviewing the profitability of current items in the product mix. It covers the following aspects in its scope:²

- Product-mix decisions
- Product line decisions
- Product standardisation
- Product branding
- Product style and fashion
- Product packaging

Product labelling

Product image-building feature

Product-Mix Decisions

A product-mix is the set of all products and items that a firm offers for sale to buyers. There are four dimensions of the product mix:

(a) The width of product-mix refers as to how many different product lines the company has.

(b) The length of product-mix refers to the total number of items within each product line.

(c) The depth of product-mix refers as to how many variants are offered of each product in the line.

(d) The consistency of the product mix refers as to how closely related the various product lines are.

Product Line Decisions

A product-line is a group of products that are closely related. They perform a similar function and are sold to the same customer groups. The products of a line are marketed through the same channels. Product line managers should know the sales and profits of each item in their line in order to decide which items to build, maintain, or which to remove.
**Product Standardisation**

Fixing up standards for products requires careful and proper planning. While fixing the standards, such physical properties of the product are considered as the nature of the product, the process involved, consumer demand, product performance, size, shape and dimension and chemical or technical properties.

Standardisation concentrates upon the optimum number of types, sizes and grades of products. It is purely a technical function to be handled by management with vision and foresight.

**Product Branding**

Today, branding is such a strong force that hardly anything goes unbranded. In developing a product plan, the firm has to confront the branding decision. A brand identifies the seller or maker. It can be a name, trademark, logo, or other symbol. Brand conveys many qualities of product such as well built, durable, high prestige, high resale value, and so on. The brand also says something about the producer's values and identity.

**Product Style and Fashion**

A style is a distinctive manner of construction or presentation in any art or product. A fashion in any style that is popularly accepted and purchased by several groups of people over a long period of time. Many products are bought to meet the psychological needs of style and fashion. Some products are purchased due to their stylish quality,
although they have very little functional use. Style and fashion are completely subjective forces. Basic styles never change, but fashion is always changing. Fashion is so dangerously dynamic that a product becomes obsolete in no time.

**Product Packaging**

Packaging is an important element of product planning and it is one of marketing's most vital selling tools. Many products have a distinct image in the consumer's mind through their packaging. Packaging serves several purposes—product protection, economy, convenience, and promotion.

**Product Labeling**

Labeling is another feature of product planning that requires marketer's attention. The label is a part of a product that carries information about the product or the seller. A label may be a part of a package, or it may be a tag attached directly to the product.

**Other Image Building Features**

A well-rounded programme for product planning must include the decisions on several additional product attributes. These are as follows:\(^3\)

**Product Design**—A distinctive design may differentiate a product. Product design has promotional appeal as well as glamour. For

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industrial products, engineering design has value, while for consumer products, appearance design creates marketing significance. Good design makes the product easier to operate. It can also improve the product's quality and appearance.

**Colour**- Colour often influences a customer's acceptance of a product. The producer must know about the right shades of colour for different products. The fashionable colours in women's garments have an important role to play.

**Quality**- The quality of a product is extremely important. It has a concern with both materials and workmanship. It is very difficult to decide about 'what constitutes quality in product'. In this context Stanton says, "The product should reach only that level of quality compatible with the intended use of the item; it need not be any better."

**Product Warranty**- It is giving assurance to the buyers that they will be compensated in case the product does not function well. The marketers should not forget that today manufacturers are also held responsible, even when the contract is between the retailer and the consumer. They are held liable for product-caused injury. Thus, warranties are considered to "run with the product.

**Product Development in Dairy Industry**

In 2013-14 fiscal, milk production in the country is estimated to have increased by 6 per cent to reach approximately 140 million tonnes. Innovative process technologies coupled with effective strategies have played a major role in achieving this milestone.
Currently the global milk demand is growing by 15 million tons per year. This presents for India a unique opportunity for building a sustainable dairy chain that sources milk from smallholder dairy farmers to meet not just domestic needs but also those of the global market.

However, in today's competitive global scenario, it is imperative for stakeholders to realise the importance of improving the quality and not just quantity of production.

Focus should be laid on better procurement, testing, processing and product development for diversified dairy products. Hence, the role of innovative and cost-effective technologies in all aspects of dairying cannot be undermined. Further, the technological and qualitative changes made in these areas would lead to value addition, increased profits and decreased production costs for the dairy sector.4

**Business Growth Chart (In Lakhs)**

![Graph showing business growth from 2009-10 to 2012-13](image)

*Source: Annual Report of Jaipur Dairy, 2010-11, 2011-12*

These activities are related to Product Planning and development in Dairy Industry

Procurement and input activities include Farmer's Organization, Input Services like Animal Health Coverage, animal breeding programme, Supply of balanced cattle feed and improved high yielding fodder seeds to the members, Cooperative institution building, Women Dairy Cooperative Leadership programme and Training of DCS manpower and its Managing committee members etc.

Processing facilities of the dairy plant presently include multidimensional activities like chilling, Pasteurization, standardization, sterilization, production of Ghee, Butter (Salted / Unsalted), Skimmed Milk Powder(SMP), Indigenous fresh Milk Products (Paneer, Shrikhand, Chhach (Plain / Salted), Lassi, Mawa (Khoa)& Dahi (Plain / Mishti) and Aseptic Milk (which was handed over to Jaipur Dairy only in 1997-98).

To improve the quality of raw milk, the Dairy has commissioned chilling centers and installed Bulk Coolers at various places in the milk shed.

The Jaipur Dairy Plant

The Jaipur Dairy has various functional departments and a brief look at the Jaipur Dairy and its operations is as follows: -
**Project Cost:** - The total cost of the Jaipur Dairy Plant was Rs. 5.20 crore and was setup with the assistance of International Development Association (World Bank) and constructed and enacted by NDDB.

**Milkshed of the Unit:** - The present milkshed area of the plant consists of the districts of Jaipur, Tonk, Sawaimadhopur, Sikar and Jhunjhunu. Five chilling centers of 20,000 LPD capacity of each have been set up in its milkshed area where milk is first chilled and then sent to the plant. These are at Dausa, Malpura, Reengas, Gangapur City and Kotputli.

**Production Facilities:** - The dairy plant is equipped with modern milk processing and product manufacturing equipment. This consists of machinery and equipment meant for producing liquid milk, Flavoured milk Paneer etc.

**Plant Activities:** - Raw milk from DCS is received at the raw milk reception dock twice a day and immediately chilled and stored in Raw milk tanks; similarly, milk received from chilling centers and other unions is unloaded in the RMIs (after chilling, if necessary). According to expected intake of the day, daily utilization plant is made in the morning keeping the board outlines writing produce mix-plan in mind (Though there is not much of variation in the dairy utilization plan.)

The process section takes care of chilling, pasteurization, milk separation, homogenization and standardization; various other sections are then issued/transfered the quantity of milk/cream/skimmed milk
required by them as per the product mix plant. Broadly the plant activities are curried out in the following section of the plant:

1. Raw milk Reception Dock (RMRD)
4. Butter
5. Ghee
6. Milk Powder

A brief description of the aforesaid section is given below:

Raw Milk in 40 liters aluminum cans is received through different milk routes established all over the milk shed. The milk is graded, weighed and sampled society-wise. The temperature ranges of milk received from DCS is from 25°C to 37°C which is then chilled upto 4°C to 6°C.

The cleaned and empty cans are then handed over to the route contractor for handling them back to Respective DCS's. The samples taken are tested for fat (by milk tester) and SNF (by Specific Gravity Method). The computerized milk payments bill, based on the quantity, and testing as above are prepared or weekly basis.

Apart from receiving milk in cans, chilled milk is also received through insulated Road milk tankers both from the milk chilling centre.
and regional milk grid pool. The tankers are directly decanted in raw milk tanks.

**Milk Processing Section: -**

The raw chilled milk, received from DCS and chilling centre is subjected to different processes like pasteurization, separation standardizations. As per five tuned planning, skimmed milk is made available for powder plant for drying good quality cream for table butter/white butter, milk for buying products. Standardized (Standard (tonned milk for sachet packaging for marketing.

**Processing Steps at Dairy: -**

At Dairy the following steps are taken before distribution of milk to the consumers.

- Milk chilling
- Milk Standardization and pasteurization
- Milk packaging.

**Milk Chilling: -**

Milk received through societies is first weighed and then pumped to the chiller where the temperature of milk is brought down to between 3°C and 4°C. Normally no further growth of present bacteria is possible at this temperature. After chilling operation is over, the milk is analysed for its constituent's Fat, Solid Not Fat temp. (S.N.F.) and acidity etc. Jaipur Dairy has established five centers for
milk chilling. These centers are at Dausa, Shahapura, Manpur, Macheri Kaladera etc.

**Milk Standardization and Pasteurization: -**

After analysis, the milk is reconstituted into skimmed milk powder or recombined with S.M.P.L. and Fat source, butter oil or cream, to meet the legal standard of milk. After standardization the milk is taken to pasteurized where it passes through different stages.

1- Filtration : Through line filter
2- Preheating : Heated upto 45°C
3- Filtration : Through Muslin clot.
4- Clarification : Though clarifier cum separator.
5- Preheating - II : Heated upto 60°C Homogenisation
   Injection of butter or fat source.
6- Heating and holding 160°F for 60 seconds.
7- Pre-cooling-II Temp. 50°C
8- Pre-cooling-I - Temp. 15°C
9- Chilling - out let temp. 4-5°C

The milk that comes out of the pasteuriser is clarified and homogenized. During these stages fat can be added at the time of homogenization and can be separated out during clarification stage. As the system is totally automatic, any part of the milk which has not attained desired temperature will be attained desired temperature will
be diverted to the balance tank and process will continue till the desired temperature is attained.

The time temperature combination is used to kill all pathogenic organisms, particularly, microbacterium tuberculosis bacteria which is an index organism. By using this time temperature combination there is minimum loss in nutritive value of milk. After the above process, the milk becomes homogeneous.

Various standards recommended by P.F.A. for milk are as follows (Particularly Rajasthan State)

<table>
<thead>
<tr>
<th>Type</th>
<th>% Fat</th>
<th>S.N.F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cow Milk</td>
<td>3.5</td>
<td>8.5</td>
</tr>
<tr>
<td>Toned Milk</td>
<td>3.0</td>
<td>8.5</td>
</tr>
<tr>
<td>Double Toned Milk</td>
<td>1.5</td>
<td>9.00</td>
</tr>
<tr>
<td>Full Cream Milk</td>
<td>6.0</td>
<td>9.00</td>
</tr>
<tr>
<td>Standard Milk</td>
<td>4.5</td>
<td>8.5</td>
</tr>
</tbody>
</table>

**Milk Packaging Section**: Jaipur Dairy Plant is the leader in market milk supplies to Jaipur City. It has captured almost 80-85% of the market share which makes an average supply of 15 lakh LPD. Packaging section centre the packaging needs of Jaipur Dairy Plant.
The Standardized Milk (tonned/standard) received from process-section is packed by "Form-fall and seal-type of packing machines. This system is electronically controlled and possibility of variation in pouches is only upto 0.5%. The film which passes through U.V. light get sensitized before coming in contact with milk.

The date of manufacturing and price can be marked or embossed on the seal for the purpose of safety. A total eight packing heads are provided (there numbers double head and two numbers single head). A single head and double head by a capacity of 2500 packs/hr. and 5000 packs/hr. respectively.

A chain conveyer passes in between lines of packing machines. The filled pouches from the machines are manually set tub-type crates in 4 x 5 arrangements as the crates pass by the machines. The filled crates enter into the cold store.

At a point where these are checked and stacked manually (seven stack height) in cold store.5

**Process of Milk Product:**

**Saras Pasteurized Milk**

Saras Milk is made from fresh raw milk, standardized, processed and packed under strict hygienic conditions. SARAS milk is pasteurized in most modern plants and available in pouch. Saras milk is in conformity with PFA standards for the respective type of milk.

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5 Annon Management System for quality and Food Safety, Technology of Indian Milk Products, A Dairy India Publication, p.323-329
<table>
<thead>
<tr>
<th>Type of Milk</th>
<th>Colour of sachet</th>
<th>%Fat</th>
<th>%SNF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saras Smart (DTM)</td>
<td>Yellow</td>
<td>1.5</td>
<td>9.0</td>
</tr>
<tr>
<td>Saras Taza (TM)</td>
<td>Blue</td>
<td>3.0</td>
<td>8.5</td>
</tr>
<tr>
<td>Saras Shakti (Standard)</td>
<td>Green</td>
<td>4.5</td>
<td>8.5</td>
</tr>
<tr>
<td>Saras Gold (FCM)</td>
<td>Orange</td>
<td>6.0</td>
<td>9.0</td>
</tr>
<tr>
<td>Saras Life (Skimmed)</td>
<td>Violet</td>
<td>0.5</td>
<td>8.7</td>
</tr>
</tbody>
</table>

**Ghee: -**

The Fat is separated from the pasteurised milk. Thus, the cream separated is again pasteurised, deodorised and converted into pasteurised white butter. The white butter is heated upto a certain temperature and the pure Ghee is prepared.

**Cow Ghee**

Saras cow ghee is a popular product made from fresh cream of cow milk. It has a very good aroma and granular texture and meets all the standards of PFA and Ag-mark. It is a rich source of Vitamins A, D, E and K and has therapeutic use.
S.M.P. (Skimmed Milk Powder):

This product is obtained from cow or buffalo milk. The fats are separated from the milk by an automatic machine. Thereafter water is removed from pasteurized milk to get S.M.P. Calcium chloride, citric acid and sodium citrate are added.

PRODUCT MIX OF JAIPUR DAIRY

The set of all products offered for sale by a company is called a product mix. The structure of a product mix has both breadth and depth.

Its breadth is measured by the number of product lines carried, its depth by the variety of sizes, colors and models offered within each product line.

A broad group of products, intended for essentially similar uses and having similar physical characteristics constitutes a product line. Firms may delineate a product line in different ways.

The raw milk is graded into various grades as per the product requirements. The tonned milk contains 3% Fat and 8.5% SNF the double tonned milk contains 1.5% Fat and 9.0% SNF.

A Part from liquid milk, various milk products like Ghee, Table Butter, Lassi (Sweet, butter milk), Chach (Salted butter milk). Shrikand (Sweet Curd) and Paneer (Soft Cheese) are produced.
Local Milk Marketing

\[ \begin{array}{cccc}
2009-10 & 2010-11 & 2011-12 & 2012-13 \\
582 & 654 & 676 & 719 \\
\end{array} \]


Milk Collection

\[ \begin{array}{cccc}
2009-10 & 2010-11 & 2011-12 & 2012-13 \\
637 & 638 & 617 & 726 \\
\end{array} \]

Chart 2

Types of Milk

- Raw Milk
  - Toned Milk
  - Saras Gold (F.C.M.)
  - Standard Milk
  - Tetra Pack
  - Double Toned Milk
  - Full Cream Milk
    - Toned Milk
    - Double Toned
    - Skim Milk
SMP (Skimmed Milk Powder)

This product is obtained from cow or buffalo milk. The fats are separated from the milk by an automatic machine. Thereafter water is removed from Pasteurized milk to get S.M.P. It may contain calcium chloride, Citric Acid and Sodium Citrate, Sodium Salts of orthophosphoric Acid and Polyphosphoric acid not exceeding 0.3 percent by weight of the finished product. This milk powder should not contain more than 1.5 percent milk Fat and moisture not to exceed 5.0 percent.

PSMP (PARTLY SKIMMED MILK POWDER)

The process of the PSMP is the same as for the SMP. The only difference is that PSMP is prepared from partly skimmed cow or buffalo milk and fat content of the product should be between 1.5 percent and 26 percent.

Table Butter: -

Butter is prepared from pasteurised cream. First the cream is separated from the pasteurised milk. The cream so obtained is again pasteurised and thereafter it is preserved in the deepfreezes. After that about 2% salt and Annatto or Curotene as coloring matter is added and the snacks are prepared by an automatic machine. No Preservative is used. It is manufactured in Ultra modern butter churn.

Saras pasteurized butter is made from good quality fresh cream in modern plants with smooth body and texture and meets the standards.
Paneer:

Saras Paneer is made from fresh and good quality milk under strict hygienic conditions with good body and texture and packed under vacuum to retain freshness and long shelf life. The product is highly nutritious, rich in protein, Fat, Minerals, Calcium. Paneer is obtained by precipitation of sour milk, lactic acid or critic acid.

After precipitation of Pasteurised milk water is separated by a wide cloth. Thereafter cakes are prepared for supply in the market. The milk fat content should not be less than 50% of the dry matter.

Plain Chhach:

SARAS Plain chhach is made from fresh DAHI by churning. Product gives a very good natural taste as it is free from any added salt or sugar. Product is viscous, free from curd grains and uniform in consistency with clean pleasant flavour. It has therapeutic value and good for digestive system. It is good for health and calorie conscious persons.

Dahi:

Saras Dahi, a popular household product with smooth texture, pleasant flavour and moderately acidic taste, made from fresh toned milk by inoculation with desirable culture of lactic acid bacteria under controlled conditions products has a therapeutic value and good for digestive system.
Pro Biotic Dahi :-

Saras Pro Biotic Dahi, is a newly introduced dahi which beneficially influences the health and nutrition of the consumer, they can potentially boost the immune system and help in treating ailing conditions like :- Diarrhea, colitis, hypertension, Digestive disorder etc. It is made from fresh toned milk by inoculation with Pro biotic culture under controlled conditions.

Flavoured Milk

Saras Sterilised Flavoured milk is made from fresh double toned milk with addition of sugar, permitted flavour and colour under PFA norms. Shelf life is 90 days at room temperature and served under chilled conditions to get its delicious Taste.

Flavours :- Cardamom, Strawa berry, Mango, Chocolate, Coffee and Rose.

Saras Slim :-

Saras Slim skimmed milk is long life milk made from fresh and good quality raw milk processed and packed through UHT technology without any preservative, free from bacteria, full of nutrition, shelf life 180 days at room temperature and meets all PFA standards. It is very good for calorie conscious people.

Saras Fit and Fine :-

Saras fit and fine double toned milk is low fat and long life milk made from fresh and good quality raw milk processed and packed through UHT technology without any preservative, free from bacteria,
full of nutrition, shelf life 180 days at room temperature and meets all PFA standards.

**Saras Shakti :-**

Saras Shakti milk is long life milk made from good quality raw milk processed and packed under ultra high temperature technology (UHT), free from any preservative and bacteria, full of nutrition and shelf life 90-120 days at room temperature. Shakti milk is rich in Vitamin A and meets all PFA standards.

**Saras Taza :-**

Saras Taza toned milk is long life milk made from fresh and good quality raw milk processed and packed through UHT technology without any preservative, free from bacteria, full of nutrition, shelf life 180 days at room temperature and meets all PFA standards.

**Kheer**

Saras Kheer is delicious and traditional Indian sweet product prepared from milk and rice the partial dehydration of standardized milk in a stream kettle added with sugar and special grade rice.

**Processed Cheese**

Saras processed cheese is manufactured from fresh cow milk. The product is made by using microbial rennet and culture. It is purely a vegetarian product and packed under strict hygienic conditions in tins.
**Lassi**

Saras Lassi is made from Dahi by churning with addition of sugar to it. Products are viscous, free from curd grains and uniform in consistency with clean pleasant flavour. It has therapeutic value and good for digestive system. It is good for health and calorie conscious persons. Product should be served under chilled conditions for better taste.

**Shrikhand**

Saras Shirkhand is made from fresh dahi by partial removal of water contents. Concentrated CHAKKA mixed with desirable quantity of sugar and paced in cups automatically under high standards of hygiene.
Whole Milk Powder (W.M.P.)

To obtain WMP pasteurised milk is standardised and added calcium chloride, critic acid or sodium citrate salts of orthophospheric acid and polyphospheric acid not exceeding 0.3% and 0.01% of buty related hydoxy anisole (Bria) by weight of the finished product.

After the standardization of milk, it is condensed in boiler at a certain temperature and then the product is packed. In this product the contents of milk fat should not be less than 25%.

Saras Gulab Jamun

Saras Gulab Jamun is made from fresh cow milk at Bikaner. Soft and delicious balls prepared by mixing Khoa and Flour 2nd deep fried in pure ghee than balls dipped into sugar solution and sealed in hermetical conditions to ensure freshness with the shelf life of 3 months when stored in cool and dry place. The product meets all the specifications prescribed under PFA norms and BIS. Leaky or puffed tin should not be consumed. After opening, the contents should be consumed the same day.

Saras Rasgulla :-

Saras Rasgulla is made from fresh cow milk at Bikaner. Soft and delicious white and yellow balls of Chenna dipped into sugar solution and sealed in hermetical conditions to ensure freshness with the shelf life of 6 months. The product meets all the specifications prescribed under PFA norms and BIS.
Saras Milk Cake

Saras milk cake is made from fresh buffalo milk at Alwar. It has a typical aroma and taste and packed in most hygienic conditions. The product meets all the statutory parameters with a shelf life of 10 days under refrigeration.

Saras Kulfi :-

Saras Kulfi is prepared from good quality milk in three flavours under strict hygienic conditions. The product has clean, smooth texture and resistance to melt down properties. The product meets all the prevailing rules under PFA Act. The product is very much rich in Fat and Calorie.

Saras Ice-Cream :-

Saras Ice-cream is prepared from good quality milk in various varieties and flavours in different pack sizes with addition of premium quality dry fruits and nuts under strict hygienic conditions. The product has clean, smooth texture and resistance to melt down properties. Product meets all the prevailing rules under PFA and BIS applicable for the respective categories. The product is very much rich in Fat and Calorie.

Procurement: -

Jaipur Milk Union is presently procuring 15 lakh liters of milk per day through its dairy co-operatives. The high level of procurement, as at present, was also a feature during the lean season.
This sustained achievement could be attributed to the following measures taken. The management of the union has made an effort during the recent past to tone up its working of the union as a result of which good results have been achieved. The main features are growth as under shown below :-

1- Competitive prices on fat basis and timely revision of pricing.

2- Timely milk payment.

3- Reinstatement of closed mobile vety services.

4- Increase in market share of union in Jaipur city for milk and milk products.

5- Regular cattle feed supply through almost all DCS's as outlets.

6- Creation of trust of the milk producers in the milk union.

7- Revival of closed DCS and organisation of new functional dairy Co-operatives.

8- Opening of sub centers to enable milk producers to supply milk at walkable distance.

9- A target oriented plan during summer for dairy co-operative.

10- Ensuring regular and proper testing of milk at DCS through a daily visit report of field staff.

11- Respect for farmers and speedy redressal of their problems.
12- Increase in number of routes under the coverage of both time collection of milk.

13- Proper monitoring of field staff through a performance grading system.

14- Cash award, Administrators, Appreciation certificates and target based incentive plan for the personnel engaged in procurement and marketing of milk.

In the Jaipur Dairy Tetra pack milk is a successful product mainly due to the impact of product planning and development.

**Tetra Pack Milk**

Tetra Pak India's Product Development and Innovation Centre (PDIC) has worked towards the use of pre-fermented whey received as a by-product during the manufacturing of Shrikhand (a dessert made from strained curd). This eliminates the entire activity of curd setting and thereby reduces time and investment.

The innovative process gives Tetra pack's customers cost control solutions for commercial viability and long term sustainability for their products.

**Commercial Opportunity**

The on-the-move market gave an opportunity to package buttermilk aseptically so that the product might have a longer shelf life, is hygienic, and there is no variation in taste. The long-life butter- milk
has been established as a home consumption product as well for a post food consumption occasion staging its presence on the kitchen table together with carbonated soft drinks.

Long-life buttermilk has been in the market and customers have grown accustomed to it being packaged in aseptic cartons. However, there is a need to optimise its formulation so that with increasing cost of raw material and other influencers in the value chain like processing and transportation cost, may not get passed on entirely to the consumer.

Thus, it can be said that the Jaipur Diary has been working to provide cost control solutions that will give our customers commercial viability and long term sustainability for their product.

**Buttermilk**

Traditionally, in most Indian households, after removing the 'Malai’ or cream from milk, what is left over is converted into curd and then into buttermilk. The milk that has thus been partially skimmed has several uses at home. Buttermilk, with a dash of spices, is widely considered to be very good for health. It is a traditional beverage in the South Asian region that dates back hundreds of years.

Being aware of the health benefits of buttermilk, the drink is accepted across all the socio-economic categories. Buttermilk has also gained popularity in recent times among young adults as it is low in calories yet a healthy and savoury thirst quencher that beats the heat.
Surely, consumers would find it a healthier alternative to other aerated beverages.

While buttermilk as a product may look simple, there are lots of variables involved, and this is where Tetra Pak's Product Development and Innovation Centre comes to the fore. As the flavours associated with buttermilk vary according to regions, the selection of spices and condiments also varies. It is, of course, important to retain uniformity in the taste of the spices like ginger, cumin or coriander when one considers the long shelf life of the product. As natural spices (powders or pastes) tend to lose their profile over time, PDIC has worked towards the use of more stable and soluble forms of these essential spices. The correct sourcing of these spice combinations gives the product a uniform flavour, thereby giving the customer a safe and hygienic product.

**Ultra High Temperature (UHT) Milk**

There has been increase in consumer awareness and a greater demand for pure superior and wholesome milk. There are also areas, such as the coastal belt, where there is scarcity of good quality milk.

Therefore, Jaipur Dairy decided to opt for UHT milk in Tetra Pak cartons as it is the best option to provide milk that is safe and hygienic, as well convenient as it does not need to be boiled. The increase in sales is a clear indication that this is what the consumer wants. Going forward the Jaipur Dairy has planned for expansions to
cater to the growing demand for superior UHT milk. This milk has six months life.

**Khoa or Mawa**

Khoa or Mawa is an important indigenous heat coagulated, partially dehydrated milk product which is very popular in large section of population throughout the country. It is obtained by heat desiccation of whole milk to 65 to 70 per cent milk solids without the use of any foreign ingredients.

As per the Prevention of Food Adulteration Act, as amended up to March 2006, khoa is the product obtained from cow or buffalo (goat or sheep) milk, or a combination thereof by rapid drying containing milk fat content not less than 30 per cent on dry weight basis of the final product.

For khoa making, generally traditional method is followed in which milk is heated in an open pan and continuously stirred and scraped with the help of a scraper to avoid milk solids sticking to the pan. It is estimated that about six lakh tonnes of khoa is produced annually, which is equivalent to seven per cent of India's total milk production. Depending on the end use and the quality of milk used, mainly three commercial types of khoa are identified namely Pindi, Dhap and Danedar which differ in composition, texture and quality. Khoa is of great commercial importance due to its use for the
preparation of a variety of indigenous sweets like burfi, pera, gulab jamun etc. It is also used for stuffing vegetables in many food items.\textsuperscript{6}

**PRICING**

The Price policy assumes a vital role in determining the farmers choice of economic activities.

- Influencing the farmers decision on resource allocations.
- Accelerating production and productivity.
- Securing adequate increase in the market supply.

A remunerative pricing structure is aimed at providing sufficient incentives to farmers to enhance milk production. Over the last four years, the annual price of milk paid to producers has recorded a growth rate of 8\% approximately. The sensitivity involved in milk pricing mechanism introduces an element of intricacy and uncertainty in its determination. It needs a constant monitoring to evolve a principle of fair pricing based on scientific measurements and values as the very structure of bovine pattern and their fat/SNF composition /performance vary widely across geographical regions. A critical factor that has been considered in the price fixation is the composition and quality of milk. This implies an equitable weightage to both ingredients of milk-fat and SNF. A third ingredient, which needs equal attention is organoleptic quality. Usually, the market valuation of SNF ranges to around two-thirds of the value attached to fat.

In many developed countries, milk having fat over and above 3.7% receives no extra incentive. There, the emphasis is laid on protein rather than on fat since a product like cheese has assumed a higher relative importance and the market for low fat products is showing growth. The upper strata of society in India are also following this concept. Due to increased percentage of coronary heart diseases, people have become more conscious about fat contents in milk and milk products. The Jaipur Dairy launched the low fat content milk under the brand name "SMART" (its fat content is 1.5% and SNF 9%) Due to low fat content it will attract heart patient and those who want low fat content milk. Its price is the lowest as compared to other types of milk. It is hoped that it would gain popularity in lower classes and rural areas. So, it is hoped that the low fat content milk and milk products would attract more consumers without affecting the price structure.

The prices of milk and milk products are revised from time to time. Market forces and cost of production guide the price revision. While fixing the prices of milk and milk products, the demand and supply equilibrium is also taken into consideration.
### Price List of Dairy Products -2014

<table>
<thead>
<tr>
<th>Packing Size</th>
<th>Ghee (cow)</th>
<th>Table butter</th>
<th>Ghee (cow)</th>
<th>UHT Toned</th>
<th>UHT Double Toned</th>
<th>UHT Cow</th>
<th>UHT Skimmed</th>
<th>Balanced Cattle Feed</th>
<th>High Energy CF</th>
<th>Bye-Pass CF</th>
<th>Mineral Mixture</th>
<th>Urea Mol. Brick</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 lt. Monocarton</td>
<td>186.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>1 lt. Monocarton</td>
<td>370</td>
<td>-</td>
<td>395</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1 lt. Tin</td>
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<td>-</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>15 kg tin</td>
<td>5595</td>
<td>5970</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>100 gm</td>
<td>-</td>
<td>36</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>500 gm</td>
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<td>177</td>
<td>-</td>
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<td>25 Kg</td>
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<td>-</td>
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<td>-</td>
<td>-</td>
<td>825</td>
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<tr>
<td>50 Kg</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>680</td>
<td>730</td>
<td>855</td>
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<tr>
<td>Nos.</td>
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<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>40</td>
</tr>
<tr>
<td>500 ml</td>
<td>-</td>
<td>-</td>
<td>26.50</td>
<td>23</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1000 ml.</td>
<td>-</td>
<td>-</td>
<td>53</td>
<td>46</td>
<td>42</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>1000 gm</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>40</td>
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<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>5 lt. Tin</td>
<td>1850</td>
<td>-</td>
<td>1975</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>15 Litre Tin</td>
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<td>-</td>
<td>5475</td>
<td>-</td>
<td>-</td>
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</tr>
</tbody>
</table>

**Cattle feed rates w.e.f. 14.4.2014**

**Ghee rates w.e.f. 06.08..2014 (F.N.)**
PROMOTION

Promotion is an attempt to influence. It serves to inform, persuade and remind the market of a product in hope of influencing the recipients' feelings, beliefs and behavior. At present, Jaipur Milk Union is distributing milk and milk products throughout Jaipur city and nearby towns.

The SARAS Brand of Jaipur Dairy is a popular and established brand. Based on the market research, further branding and sub-branding are to be carried out. For further Brand promotion, assistance of advertising agencies and NDDB is being taken.

Total number of retail selling outlets increased as compared to the previous year. Also, new routes have been started in upcoming colonies. A milk depot has been set up in walled city to meet the demand of interior areas and auto rickshaws and cycle rickshaws are engaged for distribution. On special occasions, like festivals, marriages etc. Jaipur Milk Union makes special arrangements to sell milk in the local milk mandis and other important places to meet the extra demand. It also keeps an eye on milk price. A scheme of milk testing campaign was organised in different colonies to create awareness amongst the consumers regarding purity of milk. School children are invited to the Dairy plant, to educate them.

In association with various consumer organisations, meetings/discussions on dairy products were organized. Eight number of exclusive outlets (milk bars) of Saras Milk and Milk Products have been set up in Jaipur City. Various sales promotion activities like
painting of booths, display of banner, ads on scooters’ stepany covers, festival posters, school copy labels etc. have been introduced to make SARAS more popular.

For sales promotion staff, booth agents and dealers a motivational scheme of cash award has been introduced to increase the sales volume.

Inhouse training programs are organized for booth agents, shop agents and other retailers for orienting them towards proper handling of milk and milk products and to develop awareness to satisfy consumers needs.

To increase the sales volumes even at short distance (more an half km.) distribution booths are provided if the sale exceeds 100 ltrs. of milk per day.

To, promote the sales, the milk and milk products are packaged to different volume and weight packages.

**Highest Milk Collection**

Highest Milk Marketing


PROMOTION COMMODITY TO BRAND

- Saras milk positioned as pure, fresh, creamy
- Consumer awareness campaign.
- Doodh ka doodh-pani ka pan!" campaign
- Milk testing organised in colonies.
- Samples collected from houses on telephonic information.
- Milk testing campaign organised in association with consumer activist group.
- Permanent testing center established at
- Prominent location in association with
- Consumer activist group.
FESTIVAL ADVERTISING

- At outlets.
- Banners.
- Publicity in newspaper.

SALES PROMOTION SCHEMES:

- "Saras Dhamaka" scheme- Rs. 1.00 discount on milk against newspaper cutting with lucky draw.
- "Saras Gold Medal" contest for students.
- "Saras Nratyotsav" competition for students.
- Saras double benefit" scheme

Payment to Milk Producers (In Lakhs)

PUBLICITY MEDIA USED

- Retailer sign board.
- Stand board (both side painted
- Glow sign board.
- Festival greetings poster/stickers
- Yearly calendar
- Booth painting.
- Shop wall painting.
- Vehicles painting.
- Banners.
- Stickers
- Scooter step any covers
- Leaflets comparing saras milk/loose milk
- Leaflet on consumer education.
- Participation in fairs/exhibition
- Sponsoring cultural/sports events.
- Sunpack/card board danglers.
- Gift coupons in T.V. Serials.
- Hoardings.
- Newspaper
- Doordarshan
- Local press for highlighting achievements.
- Mote book labels.