

STATUS OF BAKERY INDUSTRY IN INDIA

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Due to the rapid population rise, the rising foreign influence, the emergence of a female working population, and the fluctuating eating habits of people, *Bakery Industry in India* has gained immense popularity. **Bakery products** are also famous nowadays due to their high nutrient value and affordability, are an item of huge consumption. Concerning bakery products, consumers are demanding newer options, and the industry has been experiencing fortification of bakery products to satiate the burgeoning appetite of the health-conscious Indian men, women, and children. *Bakery Industry in India* holds an important place in the food processing industry and is a traditional activity. Several healthy wheat-based products have been launched in the *Bakery Industry in India*, and are gaining popularity at a high rate. The mounting presence of bakery chains has further triggered the growth in the sector.

India is the world's second-largest producer of food next to China and has the potential of being the biggest with its food and agricultural sector. So the *trends and challenges of the bakery industry in India* are large as well. The *Bakery Industry in India* is one of the biggest sections of the country's processed food industry. Bakery products, which include bread and biscuits, form the major baked foods accounting for over 82 percent of the total bakery products produced in the country. The *Bakery Industry in India* enjoys a competitive advantage in manufacturing, with an abundant supply of primary ingredients required by the industry, and is the third-largest biscuit manufacturing country (after the United States and China). The trends and challenges can be classified as:

Trends

E-retailing of bakery products;

Expanding foothold;

Improved packaging, and

Innovation in ingredients and replacing unhealthy ingredients with their healthy counterparts.

The trends that have been gaining ground in the *Bakery Industry* are e-retailing of the bakery products, aggressive expansion plans of the incumbents, and technological and ingredient advancements. Despite a slight slowdown in India's economy, bakeries continued to perform strongly driving sales of baked goods over 2013. Baked goods registered double-digit value growth of 10 percent in 2013. The growth of baked goods was driven mainly by the rapid expansion of modern retail outlets across the country.

Challenges are:

Bakers also face a few challenges, such as:

- Government regulations;
- Demand-supply chain;

Rising prices of flour (maida), or the rising price of wheat the major ingredient, and other raw materials such as oil, fat, and eggs, and The price-sensitivity of the market

The challenges would be category-specific. The biscuit category has seen rapid growth in the last few years. The implementation of packaging standardization norms appears to be a big challenge.

Volatility in input costs is expected to remain, and this would add to the woes. In bread, profitability has remained the point of focus for some time. Players have been looking to increase the share of value-added products while focusing on operational efficiencies linked to daily distribution. The challenge for cakes would be to expand the consumption of packaged cakes. This challenge is also a significant opportunity for this particular segment. With the right enablers from the product and supply chain, this is a category waiting to explode or boom. To overcome the challenge of rising production costs, many national and international companies have come forward with solutions to reduce the production costs by offering on-site trial demonstrations, which would reduce the percentage of gluten, fat, eggs, and oil used in the recipe thus making it healthier in a way of making it as an edible option available to vegetarians and vegans.

Apart from this, it would also help to improve the nutritional value of the end-product by reducing the usage of harmful chemicals and preservatives to make it last longer on the shelves of supermarkets, grocery, and department stores which in turn would reduce the nutritional value of the said product.

Is bakery business profitable in India?

Yes, the *Bakery Industry in India* is profitable as backed up by several facts and figures. The *Bakery Industry in India* reached a value of **US \$7.22 Billion in 2018** and further, the market value is projected to exceed **US \$12 Billion by 2024**. When done right without compromising on quality or quantity, the **bakery business** is easy to scale from your first location or home-setup to multiple outlets. First, you must select what type of bakery you want to run if it's a bakery café, home-bakery, or delivery kitchen which is popularly known as cloud-kitchen. You need a strong business plan and market analysis before you step into the *Bakery Industry in India*.

Is the bakery industry growing?

As per the website of Expert Market Research, The global **bakery products** market reached a value of almost USD 507.38 billion in the year 2020. The bakery products industry is further expected to grow at a CAGR of 2.5% between 2021 and 2026 to reach a value of almost USD 574.05 billion by 2026. The United States is followed by China, which holds 7% of the global bakery market share. The United States is a major or rather say a significant region in the industry, which accounts for 20% of the global bakery market share. China and Brazil are the rapidly growing markets for bakery products, with an approximate growth rate of 10% in the past four years. Europe currently represents the largest bakery products market. Within Europe, Germany dominates the bread and rolls segment.

The *Bakery Industry in India* is one of the largest segments in the food processing sector in India, the bakery industry offers huge opportunities for growth, innovation, and job generation. The *Bakery Industry in India* is separated into 3 categories namely, bread, biscuits, and cakes and pastries, the *Bakery Industry* reached a market value of USD 7.22 billion in 2018. As the second-largest producer of biscuits after the USA and China, India is a key player internationally, and with the entrepreneurial spirit of Indian companies and individuals, it is one of the most exciting regions for the bakery sector. Changing consumer taste, preferences, and lifestyle changing habits are shaping the *Bakery Industry in India*. As part of a global trend, there is a greater demand for healthier products and alternatives, particularly when it comes to bakery goods which are now more commonly consumed daily as opposed to being a treat. With high consumption rates, customers want baked goods that are guilt-free, lower on calories, sugars and are increasingly seeking gluten-free products or goods made with alternative ingredients such as

multigrain and whole-wheat. Alongside healthier options, millennials, in particular, are always seeking new flavors and experiences, making flavor innovation key. With hectic lifestyles, Indian consumers are prioritizing convenience, and as loaves of bread and biscuits are fast-moving consumer goods (FMCG), bakeries are a go-to option. While Indian consumers have their demand and appetite for baked products, the *Bakery Industry in India* faces certain challenges. The industry is generally divided into organized and unorganized, with more than 2,000 organized or semi-organized bakeries, and 1,000,000 unorganized bakeries. Operational efficiency is a major issue in the industry, as is the lack of technology and skilled workers. Organized bakeries in India are also utilizing social media marketing and social media engagement to provide targeted and cost-effective marketing. Lacking the large budget of resources of international chains, local bakery-cafes are eschewing traditional marketing to rely on word-of-mouth recommendations rather than social media marketing and social media engagement. Tapping into the artisanal market, smaller bakeries can concentrate on quality over quantity, while larger Indian chains such as Barista and Mad Over Donuts rely on creating larger quantities but with strong branding and associated trust. Although there are obstacles that are causing losses like a lot of other industries which lack the proper use of types of machinery and other resources, there has been a boom in entrepreneurial endeavors in the **bakery industry** in India. **Home baking** has always been a popular pursuit, but with new technological innovations, individuals have been able to monetize their efforts.

What's the future of the bakery industry?

Irrespective of certain difficulties, the forecast for the *Bakery Industry* is positive with a projected market value likely to exceed USD 12 billion by 2024 expanding at a CARG of 9.3% from 2019 to 2024. Along with these predictions, India occupies a unique position in the market as flavor innovation continues to grow in importance on a global scale. Indian traditions and access to interesting and unusual flavor combinations will allow them to continue to excel and innovate in this market.

Conclusion

The *Bakery Industry in India* is an industry that is only expected to grow and boom shortly because of the hectic and fast-paced life of a majority of people living in urban India along with the undying hunger with healthy gluten-free alternatives again provides enough area for the *bakery industry in India* to explore.

MAJOR AND MINOR INGREDIENTS OF BAKING

MAJOR INGREDIENTS

1. WHEAT FLOUR



- Is the basic ingredient of batters and dough and provides structure and body in baked products because of its protein and starch content.
- **White whole wheat flour** is all grain wheat flour that has been milled using **white** or **albino wheat** rather than the traditional red wheat. It retains many more nutrients than the traditionally bleached white flour. This type of flour produces products that taste more like they were made with bleached flour, so it is often considered the ideal compromise between taste and proper nutrition. Increasingly, supermarkets carry packaged loaves of bread that are made using white wheat flour.

3 MAIN KINDS OF WHEAT FLOUR:

1. Bread Flour or Strong or Hard Flour



- Contains 12-14% protein (high gluten strength). It is utilized for baked products such as bread rolls and other sweet yeast-raised products. It could be distinguished from the two other kinds by the gritty, sandy, dry and granular feeling when rubbed between the fingers. It has creamy color and does not form lumps easily when pressed together. A biological leavening agent like yeast is used to produce the necessary gas to develop into dough.
- Is high protein flour, specially formulated for making yeasts breads. The combination of extra protein, a tiny bit of malted barley to help the yeast and vitamin C or Potassium Bromate to help the formation of the gluten, helps the dough rise and retain gasses as it bakes, resulting greater volume and better texture.

2. All Purpose Flour or Family Flour or General Flour or Pastry Flour



- It contains 10-11% protein (medium gluten strength). It is used to substitute for either cake or bread flour but requires kneading for bread and less mixing in cakes in order to control gluten development. It has the quality of bread and cake flour. Yeast or chemical is used in dough development.

- The texture of all purpose flour is that it should be free flowing and not have any lumps that don't break apart with lightly applied pressure from the finger.
- It can be used in breads, cookies, as a thickening agent, breading for meats, and much more. It is also sometimes referred to as general purpose flour. All purpose flour is always made from wheat. The types of wheat that can be used are **hard red** (winter or spring) **wheat**, **soft red winter wheat**, and **white wheat** (hard or soft).

3. Cake Flour or Weak or Soft Flour



- It contains 7-9% protein (weak gluten strength) and is used for making cakes, pastries, cookies and other products like noodles. It is identified by its sleek, velvety and smooth feel when rubbed between fingers. It is whiter compared with bread and all purpose flour. When pressed together, it tends to hold its shape. A chemical leavening agent like baking powder and baking soda are used in dough development.
- Highly specialized type of wheat flour, intended for use in making cakes, cookies, and other delicate baked goods. Several characteristic differentiate cake flour from other wheat flours making it unsuitable for certain tasks like baking breads.

COMPONENTS OF WHEAT FLOUR

1. Globulins and Albumins

- Are soluble proteins present in wheat flour but do not play an important role in baking. About 85% of the proteins in wheat flour are relatively insoluble proteins. When mixed with water and thoroughly kneaded form gluten.

2. Gluten

- Is primarily responsible to the sticky and elastic characteristics structure and body of wheat flour dough's.
- Maybe extracted from the dough through a thorough washing to remove the starch. Composed of gluten and gliadin.

3. Gliadin

- Gives elastic or stretching properties while gluten gives the tough strength to hold leavening gases which determines the structures of baked products.
- In yeast breads, gluten is developed to its maximum tenacity to assure high volume and fine texture. In other baked products like batter type cakes. The development of gluten is retarded to make the finish product more tender.

PROPERTIES AND CHARACTERISTICS OF WHEAT FLOUR

1. Whitish Color

- Flour color is important because it affects the brilliancy of the finished product. Although people consider whiteness in flour as quality, it has been shown that some baked products can be produced from long extraction, unbleached flour.

2. Tolerance

- Is the ability to withstand any processing abuse brought about mixing. Fermentation and all other baking processes and still produce satisfactory results. Tolerance is attributed to gluten quality.

3. Strength

- Is the ability of the flour to produce a large loaf brought about by the presence of protein in sufficient quantity and quality to retain the gas and sufficient diastatic activity to produce sugar for uniform gas production.
- is responsible for the flour's ability to produce large volume of well "piled" loaves. **Piling** refers to an even smooth grain and fine texture. A large volume with a coarse uneven grain means that the flour is a low quality.

4. Uniformity

- Uniform quality of every flour shipment is part of the baker's dream in order to keep his formulation and processes the same.

5. High Absorption

- Is the flour's ability to hold the maximum amount of moisture in the dough and still produce a high quality loaf of bread.

2. WATER



- Liquids in baking maybe milk, fruit juices or just plain water. It is the **cheapest ingredient in baked products** especially in the development of dough because of its essential role in converting the flour protein into gluten. **Other uses are:**
 - Controls consistency and temperature (warm or cool) of dough.
 - Dissolve salts, suspends and distributes non-flour ingredients evenly in order for complex enzymatic activation and chemical changes to take place.
 - Wet and wells starch to render it more digestible.

3 TYPES OF WATER:

1. Soft Water

- Is distilled or rain water. It is relatively free of minerals and practically no gas production. It softens gluten which results to sticky dough's that tends to flatten out. It could be treated with dough improvers or mineral yeast foods; more yeast or increasing salt by 2.5%.

2. Hard Water

*** Medium Water**

- Water contains average amounts of mineral salts. There is normal gas production. It has good gas retention and it is ideal for bread making.

*** Very Hard**

- Water contains excess carbonates of Calcium and Magnesium. It retards fermentation and it tightens and toughens gluten. It needs to be treated by boiling and filtering using any mild edible acid increase yeasts and decrease yeast foods and salt.

3. Alkaline Water

- Contains Sodium Bicarbonate. It retards fermentation and dissolves or weakens the gluten. It needs to be treated by acidifying the dough using vinegar or lemon juice.

3. MILK



- is defined as a whole, fresh and clean lacteal secretion of the mammary glands. Unqualified milk refers to whole cow's milk.
- Is an excellent animal protein food. It is one of the best sources of riboflavin, calcium and phosphoric acid and has a good supply of vitamins A and D. the average composition percentage of milk is 86.6% water, 3.8% protein, 4.6% sugar, 4.3% fat and 7% minerals.

MILK IS PROCESSED COMMERCIALY IN VARIOUS WAYS:

*** Evaporated Milk**

- Is full cream milk with 40% of the water removed by evaporation. It is homogenized before canning.

*** Dried Milk**

- Maybe made from full cream or skimmed milk.

*** Condensed Milk**

- Is prepared in similar way and has sugar added.

USES OF MILK:

1. Increases dough strength.
2. Improves the dough's tolerance to mixing.
3. It enables longer fermentation of dough. This results to a better aroma of baked products.
4. Gives a golden color to baked products.
5. Improves grain and texture.
6. Improves nutrition, flavor and eating quality.

4. SHORTENING

- Any fat which when added to flour mixtures increases tenderness. This is done by preventing the sticking of gluten strands while mixing so that gluten is shortened and makes the product more tender
- The physical and chemical properties of fats are influenced by the fatty acid content. Fats contain relatively high temperature of saturated fatty acid.
- Fats are composed by Carbon, Hydrogen, and Oxygen. They can be molded and creamed. They do not occur free in nature; hence they are * from other materials or tissues and undergo refinement processes.

CLASSIFICATION OF FATS BY PHYSICAL APPEARANCE:

1. Visible Appearance

- Are purified fats and easily recognized. Examples are: **margarine and hydrogenated.**

2. Invisible Fats

- Are fats present in various eaten foods such as **meats, eggs, whole milk** and **avocado**. They are hidden and not easily recognized.

CLASSIFICATION OF FATS BU SOURCE:

1. Fats

- Exist in bacon, butter, fish, oils, poultry, fats, suet, and hallow.

2. Vegetable

- Oil found in coconut, cotton seed, peanut, sunflower, and soybeans.

FORMS OF FATS AND OILS

1. Butter

- An excellent source of fat. It contains in verifying degree. Vitamins A and D. it is highly digestible. It is used in baking cakes and cookies mainly because of its flavor.

2. Margarine

- A substitute for butter in food value. The main difference between margarine and butter is largely one of flavor. It is made of fat, milk, and water.

3. Lard

- Extracted by pigs fat. It referred to as almost pure fat and has no other food value.

4. Cooking Fat

- An alternative to lard. It contains only fats and oils. No milk is added and no vitamins.

5. Edible Tallow

- Obtained mainly from cattle fats. It is used advantageously in certain type of **“dry breads”** and crackers with thick bodies.

6. Vegetable Shortening

- As a rule it is free from moisture. It is made from deodorized oils, such as coconut, corn, germs, soybean, cotton seeds, etc.

USES OF FATS:

1. Made bread products tender and improve flavor (by making gluten air tight).
2. Assist in gas retention giving better volume and crusts.
3. Prevents cohesion of gluten strands which allow better volume of baked.

5. SUGAR



- Is sweet soluble, crystalline organic compound that belong to the carbohydrates group of foods. They are the simplest digestible carbohydrates.

FORMS OF SUGAR:

1. Granulated Sugar or Table Sugar or Refined Sugar

- Is made from sugar cane or sugar beets syrup. It comes in white crystals and lend itself to practically all uses.

2. Brown Sugar

- Is light medium or dark brown. It coarse sticky crystals locally known as **muscavado**.

3. Powdered Sugar or Confectioner's Sugar

- Is obtained from granulated sugar by pulverizing. Cornstarch is added to prevent caking.

EFFECTS OF SUGAR ON BAKED PRODUCTS:

- * Increased dough development.
- * Makes the color of the crust richer.
- * Improves nutritive value, flavor and aroma of the product.
- * Makes the bread tender.
- * Increases the volume of the loaf.

6. EGGS



- Refers to an ovum of a chicken.
- Are essential and costly ingredients of bakery products specifically in cakes and rich sweet dough's. They represent 50% or more of the cost of the ingredients used in cake production.

MAJOR COMPONENTS OF EGGS:

1. Mucin

- A kind o protein and is found in the egg white and is responsible for the gel characteristics of the white.

2. Lecithin

- Is a phospholipid found in egg yolk. It gives the yolk its emulsifying properties.

3. Dextrose

- Is present in small amount in both white and the yolk.

USES OF EGGS IN BAKING:

1. Thickening Agent
2. Binding Agent
3. Emulsifying Agent
4. Leavening Agent
5. Gives Color
6. Richness
7. Flavor
8. Freshness and Nutritive Value

7. LEAVENING AGENT



- Is a gas added to produce during the mixing and or heating of a batter or dough allowing mixture to rise. Making the products light and porous.

3 MAJOR LEAVENING AGENTS:

1. Air

- Is incorporated in flour mixtures by beating eggs, folding molding dough.

2. Steam

- Is probably produced in all flour mixtures to a certain degree since all flour mixtures contain water and are usually heated to the vaporization temperature of the water.

3. Carbon Dioxide

- Is produced in a flour mixture either biological process (yeast) or by purely a chemical reaction.

2 TYPES OF LEAVENING AGENT:

1. Biological Leavening Agent

* Yeast

- A single celled plant that reproduces through budding which is capable of transforming sugar to alcohol and carbon dioxide in a process known as fermentation.

2 FORMS OF YEAST:

1. Dry or Granular

- Makes the yeast dormant, making inactive it is reactivated by adding water which is why not in use, they must be kept in a cool dry place with container tightly closed.

2. Cake (Compressed or Fresh)

- Yeast are in an active state in a moist mixture with starch. The presence of moisture makes the product perishable and therefore needs to be refrigerated if not for use.

2 MAIN ROLES OF YEAST:

- * Lighten or raised the dough thereby improving its palatability.
- * Contribute to the aroma and flavor of the bread.

2. Chemical Leavening Agent

* Baking Soda

- Sodium Bicarbonate and is usually distributed as “**Bicarbonate of soda**”. It liberates CO₂ but in the process, a residue of washing soda is left in the cake imparting a dark color and pleasant taste to the cake.

* Baking Powder

- Produced by mixing soda and acid salt. A stabilizer (flour or mixture) is added to the mixture to standardize it such that at least 12% CO₂ is released upon heating.

* Baking Creams

- Achieved by diluting Sodium Phosphate with cornstarch to lessen its activity to only 5%. Slow acting powder wherein the greatest part of its gas is retained until the batter has been heated in the oven. Disadvantage: It leaves an unpleasant residue if excessively used.

* Ammonium Carbonate and Ammonium Bicarbonate

- Used as leavening in small quantities and is limited to certain types of cookies and cream puffs. Disadvantage: Excess in use results to a very disagreeable taste and color.

3 TYPES OF BAKING POWDER BASED ON SPEED ACTION:

* Fast Acting or Tartrate Type

- Contains tartaric acid and cream of tartar or Potassium Acid tartrate. Responsible for releasing much of gas while mixing the dough or batter.

* Intermediate Acting or Phosphate and/or Sodium Acid Phosphate

- during mixing and baking, gas are released.

* Double Acting or SAS

- Its phosphate reacts during mixing while the Sulfate release CO₂ only upon heating.

MINOR INGREDIENTS

1. Salt



- Is purified table or cooking salt. The salt to be used should be clean and refined. Impurities present in less refined salt affect the taste of the production and also increase absorption of moisture.

USES OF SALT:

- Makes other foods taste good.
- Accentuates the flavor of other ingredients.
- Removes flatness or lack of flavor in other food materials.
- Helps control yeast action and thereby controls the rate of fermentation.
- Increases gluten strength on a dough.
- Modifies the color of the crust of yeast raised products.
- Helps in preventing the formation and growth of undesirable bacteria in yeast-raised dough.

2. Spices and Seeds



- Aromatic vegetable products commercially usually available in finely ground state. Spices contribute to the taste and smell and help improve the quality of a product.

3. Flavorings

- Solutions for the ethyl alcohol or other solvent. The base of these flavors are extracted essential oils of the fruit or bean or an imitation of the same.
- Avoid using too much flavor. An excessive use may result to undesirable characteristic of baked products.

4. Cocoa and Chocolate



- Widely used in production and finishing of cakes, pastries, pies and cookies. They produce for variety and supply body acid bulk to the cake mix or icing.