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Comprehensive review on market growth and future opportunities for probiotic and fermented dairy in India

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Abstract

The Indian probiotic and fermented dairy sector is undergoing a significant transformation, evolving from a market dominated by traditional, localized products to one with a surging demand for modernized, health-focused functional dairy. With the Indian dairy market projected to grow rapidly, reaching substantial valuations, probiotic fermented foods are poised to capture a significant market share, driven by increasing consumer awareness of gut health, obesity management, and lactose intolerance. This review highlights the robust market potential for products like fortified dahi, buttermilk, probiotic yogurts, and innovative fermented beverages. It covers the technological advancements, including the adoption of next-generation probiotics and synbiotic approaches to enhance health benefits. Despite challenges in product standardization and regulatory hurdles, the sector offers substantial investment opportunities, particularly in functional product development, cold chain infrastructure, and the validation of traditional Indian fermented products using advanced molecular techniques. The review concludes that strategic advancements in technology and tailored marketing are critical to maximizing the vast potential of this sector in India.

Keywords: Probiotic drinks, functional yogurts, indigenous fermented dairy and synbiotics

1. Introduction

The Indian dairy sector has undergone significant transformation in recent decades, shifting from traditional milk consumption to value-added and functional dairy products. Among these, fermented dairy products (curd, yogurt, buttermilk, and kefir) and probiotic dairy products are gaining prominence due to their health benefits. Fermented dairy products have been part of Indian diets for centuries, but recent innovations have transformed them into commercial functional foods. Probiotics, defined as live microorganisms that provide health benefits, are increasingly integrated into dairy products, making them a key segment of the food processing industry (IMARC, 2025).

2. Overview of fermented dairy products

2.1 Definition and Types

Fermented dairy products are produced using lactic acid bacteria that convert lactose into lactic acid, improving digestibility and shelf life.

Major categories:

- Curd (Dahi)
- Yogurt
- Buttermilk
- Kefir
- Fermented milk drinks

These products are rich in probiotics, vitamins (B-complex) and bioactive compounds.

2.2 Nutritional and Functional Benefits

Fermented products (yogurt, kimchi, kefir, and tempeh) offer significant health benefits by improving nutrient bioavailability, increasing digestibility, and providing probiotics that support gut health. They synthesize vitamins (B, K), produce bioactive peptides, and reduce anti-nutrients, aiding in immune support, cardiovascular health, and reducing inflammation (Rul *et al.*, 2022) ^[10].

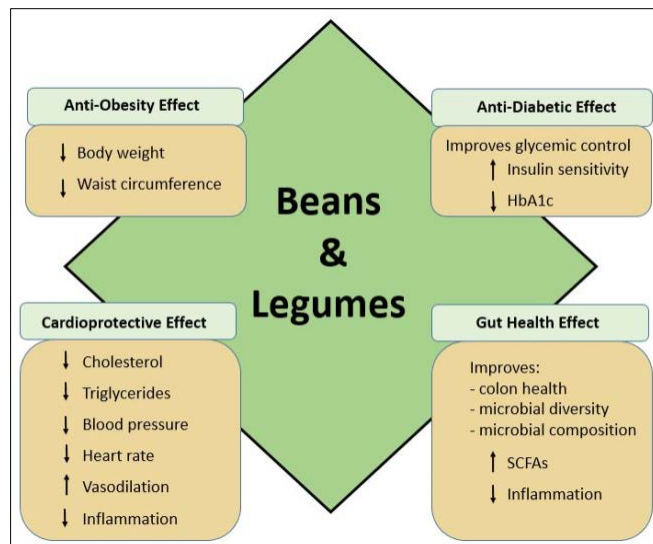


Fig 1: Benefits of Probiotic Food Products

Fermented dairy products possess the following health benefits:

- Improve digestion
- Enhance immune response
- Increase nutrient absorption
- Help in lactose intolerance

They contain beneficial bacteria such as lactobacillus and bifidobacterium. These properties have driven their transition from traditional foods to functional health products.

3. Probiotic dairy products: Concept and importance

3.1 Definition

Probiotic dairy products contain live beneficial microorganisms that provide health benefits when consumed in adequate amounts (IMARC, 2025).

3.2 Types of probiotic dairy products

- Probiotic curd

- Probiotic yogurt
- Probiotic drinks
- Fortified milk beverages

3.3 Health benefits

- Gut microbiota balance
- Improved digestion
- Immunity enhancement
- Reduction in lifestyle diseases

4. Market size and growth trends in India

India's market is experiencing rapid expansion, projected to reach a US\$5 trillion GDP by 2027 and aiming for US\$30 trillion by 2047, driven by 7-8% annual growth in real GDP, robust private consumption, and a digital economy expected to surpass US\$1 trillion by 2029. Key growth sectors include manufacturing (expected to reach US\$2.47 trillion by 2031) and retail/e-commerce, with retail set to become the world's third largest by 2030 (Hasan *et al.*, 2025) ^[5].

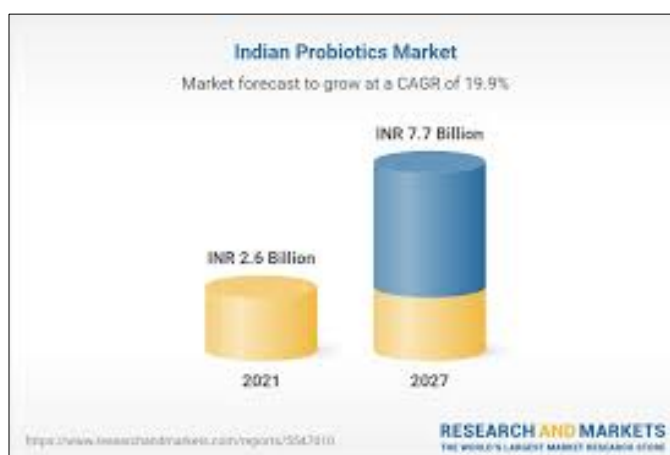


Fig 2: Indian Probiotics Market: Forecasted Growth (2021-2027)

4.1 Probiotics market growth

- Market size: ₹2,070 crore (2025)
- Doubled from ₹1,016 crore in 2021
- Growth rate: ~22% annually
- Expected to reach USD 10.77 billion by 2034 (CAGR ~17%)

4.2 Fermented Food Market Growth

The global fermented food market, valued over USD 570-780 billion in 2024-2025, is projected to grow significantly, potentially exceeding USD 1 trillion by the early 2030s.

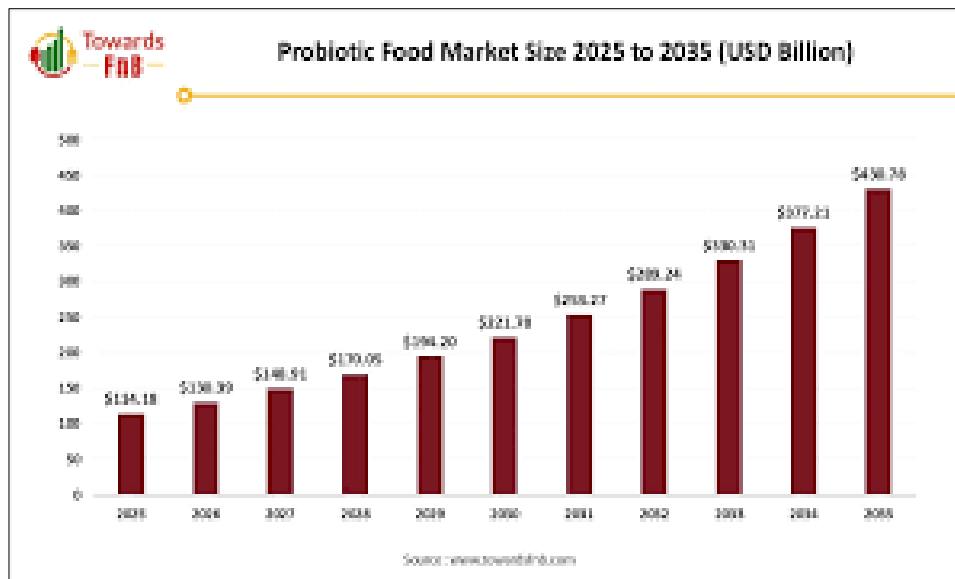


Fig 3: Projected Growth of the Global Probiotic Food Market Size from 2025 to 2035 (in USD Billion)

Driven by rising awareness of gut health, probiotics, and clean-label products, the market is expected to expand at a CAGR between 5% and 7% (Chhabra *et al.*, 2025) ^[1].

- Market size: USD 1.18 billion (2024)
- Expected to reach USD 2.61 billion by 2033 (CAGR ~9.2%)

4.3 Cultured dairy market (Global Context)

- Global market: USD 40.4 billion (2023)
- CAGR: ~5.6%

5. Conclusion

Fermented and probiotic dairy products represent a high-growth, future-ready segment of the Indian dairy industry. With strong cultural acceptance, rising health consciousness, and supportive policies, the sector holds immense potential for economic growth, nutritional security, and global competitiveness.

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