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Growth and challenges of food processing industries in Bihar: A regional analysis

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Abstract

The food processing industry in Bihar has emerged as a vital sector bridging agriculture and manufacturing, with significant potential for value addition, employment generation, and rural development. Blessed with fertile land, abundant agricultural produce, and favourable climatic conditions, Bihar has a strong foundation for the growth of food processing units. This study undertakes a regional analysis to examine the growth trends, opportunities, and challenges faced by the industry across different districts of the state. It explores key segments such as dairy, fruits and vegetables, grain milling, and meat processing, highlighting regional variations in infrastructure, investment, and output. The research identifies critical growth drivers, including government policy incentives, increasing demand for processed foods, and improved market linkages. At the same time, it addresses persistent challenges like inadequate cold storage facilities, limited access to finance, skill shortages, and weak supply chain integration. The findings aim to provide policymakers, entrepreneurs, and researchers with insights into strengthening Bihar's food processing ecosystem, ensuring sustainable growth, and enhancing its contribution to the state's economy.

Keywords: Bihar, food processing industry, regional analysis, value addition, supply chain, employment generation

Introduction

Bihar, being predominantly an agriculture-based state, urgently needs rapid development in its food processing sector. The state produces a wide variety of agricultural commodities, including not just cereals, but also fruits, vegetables, spices, fish, meat, and poultry in significant quantities. However, due to the lack of adequate food processing and storage facilities, a substantial portion of this produce is wasted. Recent findings from Rajendra Agriculture University (RAU), as of March 31, 2025, reveal alarming post-harvest losses. For instance, fruit losses range from 15-25% in bananas and as high as 30-50% in papayas. Similarly, vegetables like cabbage face 17-27% losses, while cauliflower suffers even greater losses of around 41-47%. If proper post-harvest management and food processing infrastructure were in place to reduce just the wastage of fruits and vegetables, the state's economy could gain an additional ₹2,000 crores. Furthermore, losses in cereals alone are estimated at ₹4,500 crores. These figures highlight the massive economic potential that can be unlocked through investment in food processing facilities across Bihar.

The food processing industry is one of the most promising sectors for economic growth, employment generation, and rural development in India, and Bihar holds a unique position in this landscape. With its fertile Gangetic plains, favourable agro-climatic conditions, and rich diversity of agricultural produce such as rice, maize, wheat, pulses, fruits, and vegetables, the state has immense potential for agro-based industries. In recent years, the Government of Bihar has recognized food processing as a priority sector, offering various incentives under its Industrial Investment Promotion Policy to attract both domestic and foreign investment. Despite these advantages, the growth trajectory of Bihar's food processing industry varies significantly across regions. Certain districts, like Muzaffarpur (known for litchi processing), Nalanda, and Bhagalpur, have developed niche processing clusters, while others lag behind due to infrastructural gaps, lack of skilled manpower, and limited access to technology. Moreover, challenges such as inadequate cold storage facilities, fragmented supply chains, insufficient financing options, and poor connectivity with major markets hinder the sectors

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full potential. A regional analysis of the industry is therefore essential to understand these disparities, identify growth opportunities, and formulate targeted strategies. By examining production patterns, investment trends, and infrastructure availability at the district level, this study seeks to provide a comprehensive understanding of the growth prospects and constraints of Bihar's food processing sector. Such insights are crucial for policymakers, entrepreneurs, and other stakeholders to foster inclusive and sustainable industrial development in the state.

Objectives of the Research

1. To study the present status of food processing industries in Bihar.
2. To find out which districts have more food processing units.
3. To know how these industries, help farmers earn more money.
4. To understand the main problems faced by these industries.
5. To give simple suggestions for improving the food processing sector in Bihar.

Research methodology

The present study is based on a combination of historical and contemporary data collected from multiple authentic sources in order to capture both the current realities and the potential of the food processing industry in Bihar. Historical trends of agricultural production have been taken from the Economic Survey of Bihar, particularly for the years 2023-24 and 2024-25, which provide a baseline for understanding the development trajectory of the sector. To complement this, recent statistics and qualitative insights have been gathered from reputed journals, newspapers, and news

bulletins. Official information provided by the Directorate of Food Processing Industry, Bihar, has been incorporated to ensure the inclusion of accurate data on the number, capacity, and operations of processing units, as well as policy initiatives. Additionally, relevant and reliable websites focusing on agro-based industries and food processing were consulted. On the basis of this diverse dataset, several tables have been prepared to depict the existing conditions, regional variations, and future prospects of food processing activities in Bihar.

The study area

Bihar, the study area, is a land-locked state situated in the eastern part of India. It shares its borders with Nepal in the north, Jharkhand in the south, West Bengal in the east, and Uttar Pradesh in the west. The state covers a total geographical area of 94,163 square kilometers, which accounts for about 4.12 percent of India's total geographical area. Its maximum north-south extension is 345 kilometers, while the maximum east-west spread is 483 kilometers. According to 2025 population estimates, Bihar is home to approximately 131.04 million people, making it one of the most densely populated states in the country with an average population density of around 1,269 persons per square kilometer. This density is significantly higher than the national average and reflects the enormous demographic pressure on land and resources. While this large population base provides a vast consumer market for processed food products, it also poses challenges in terms of infrastructure, supply chain management, and resource allocation. These demographic and geographic characteristics make Bihar an important yet complex region for the development of the food processing industry, requiring targeted planning and region-specific strategies.



Fig 1: Study Area

Analysis and discussion

Bihar possesses immense potential and promising opportunities for the growth of the food processing industry. Its diverse climatic conditions, fertile soil, and extensive stretches of productive plains provide an ideal foundation for agricultural abundance. Along with these natural advantages, the state's large population, the rise of an affluent middle class, and the overall improvement in the economic conditions of its people have together created a substantial domestic market for processed food products. The term food processing industry encompasses industrial units engaged in processing a wide range of agricultural and horticultural products—such as fruits, vegetables, milk and dairy products, cereals, pulses, oilseeds, spices, oleoresins,

food flavours, and colours—aimed at adding value and extending shelf life. In Bihar, the prospects for this sector are particularly encouraging due to the state's rich agro-based resources. A closer look at Bihar's agricultural output reveals the scale of this opportunity. The state ranks as the largest producer of vegetables in the country and holds the second position in fruit production, as reported in the Economic Survey of Bihar 2024-25. Furthermore, Bihar stands as the seventh-largest economy in India in terms of overall food production. The data presented in Table No. 1 further illustrates this remarkable capacity and underscores the scope for strengthening the food processing industry in the state.

Table 1: Area, production and productivity of major food crops in Bihar (2024-25)

Crops	Area %	Production (000 Tonnes)	Productivity (Kg/Hectare)
Rice	45.85	3512.3	1194
Wheat	29.85	3612	2826
Maize	9.7	2508.2	3530
Total pulses	7.6	475.1	968
oilseeds	1.65	190.5	1408
Sugarcane	3.25	115288.2	55715

Source: - Economic Survey of Bihar (2024-25)

Interpretation: - Above Table No. - 1, Show that Bihar commands considerable promise for the food processing industry, bolstered by its rich soil profile, diverse agro-climatic zones, and expansive fertile plains. These natural endowments, combined with a burgeoning middle class, rising incomes, and a large population, have transformed the state into a vibrant domestic market for processed foods. The variety of crops that feed into this industry is vast—ranging from staples like rice, wheat, and maize to pulses, oilseeds, sugarcane, and value-added items such as spices, oleoresins, food colors, and flavors. According to the Bihar Economic Survey 2024-25, rice production in the state has surged by 21%, while wheat output rose by 10.7% in the latest period. Meanwhile, maize production demonstrated remarkable growth, rising by approximately 66.6% from (2020-21 to 2023-24). These trends indicate both a robust expansion in cultivation area and a pronounced gain in productivity, particularly for maize. Moreover, these patterns underscore Bihar's latent capacity for agro-processing: the relative abundance and yield of key cereals signal readiness for value addition across various segments. Traditional rice varieties such as Katarni from Jagdishpur

and Bhagalpur, Sonachur from Bhojpur, and others like Basmati and Sonam continue to be cultivated, reflecting the region's rich varietal diversity. Bhagalpur, Rohtas, Kaimur, and Aurangabad—collectively referred to as the "rice bowl" of Bihar—contribute a substantial share of the state's paddy output, offering fertile ground for establishing modern rice mills, rice bran oil plants, and husk-powered energy units. Wheat and maize also present strong industrial potential. Wheat production is dominated by districts like Rohtas, Gopalganj, East Champaran, Buxar, Muzaffarpur, Madhubani, Bhagalpur, and West Champaran, while maize is spearheaded by Samastipur, Saharsa, Khagaria, Katihar, and Bhagalpur. These patterns lay a solid foundation for diverse agro-industrial ventures—ranging from starch and flour mills to cornflakes factories, poultry feed production, and everyday staples like dalia, suji, and maida processing. In essence, the current distribution of crop production and the sharp rise in yields—especially for maize—highlight Bihar's immense capacity to develop a dynamic food processing sector. With abundance in both volume and variety, the state stands poised to transform its agricultural wealth into structured industrial growth.

Table 2: Production of Milk, Egg, Meat and Fish in Bihar (2023-2024)

Name	Production
Milk	65.17 lakh tones
Meat	2.28 lakh tones
Fish	4.45 lakh tones
Egg	76.45 lakh tones
Honey	90.01 Metric tones

Sources: - Department of animal Husbandry, Bihar

Interpretation

Above Table No.- 2, Show that production of Milk, Egg and Meat is a vital role played In Bihar, only about 12-13% of total milk production enters the processing chain, with COMFED handling nearly 10% of it. Popular dairy-based products like ghee, lassi, butter, curd, paneer, and traditional sweets enjoy rising demand in both rural and urban markets.

Meat processing, covering chicken, mutton, and beef, remains underdeveloped, while fish is mostly sold fresh due to the absence of a cold chain. Bihar also produces around 50% of India's honey—about 84 metric tonnes—mainly from Muzaffarpur, Vaishali, Katihar, and nearby districts. Litchi honey is in high demand, yet the lack of large processing units leaves much of this potential untapped.

Problem of food processing units in Bihar

The food processing sector in Bihar, despite its vast potential, faces several persistent challenges that hinder its growth. Inadequate infrastructure, particularly the shortage of cold storage facilities and modern warehouses, leads to high post-harvest losses, especially for perishable goods like fruits, vegetables, milk, fish, and meat. Poor road connectivity and limited transport facilities further disrupt supply chains and timely market access. Many units operate with outdated technology, reducing efficiency and product quality. Access to finance is another major issue, as small and medium entrepreneurs struggle to secure affordable credit. Skilled manpower is scarce, with limited training facilities for modern food processing techniques. Additionally, the sector suffers from inadequate market linkages, insufficient branding, and a lack of large-scale processing units to tap into national and global markets. These challenges, if addressed through targeted policies and investments, could unlock Bihar's enormous potential in the food processing industry.

Cold storage facilities are vital for the growth of food processing industries, yet Bihar lags significantly in this area. The state has 355 cold storages with a total capacity of about 1.6 million metric tonnes, but 120 of them, with over 4.16 lakh MT capacity, are non-functional, and 23 are still under construction. This leaves only 212 operational units with a combined capacity of about 10.3 lakh MT. Several districts, including Banka, Munger, Jamui, Sheohar, Sheikhpura, and Arwal, lack any cold storage facilities. Moreover, irregular power supply and severe voltage fluctuations force industries to rely on costly captive power units, reducing their overall competitiveness.

Benefit of food processing unit in Bihar

Food processing units in Bihar offer multiple benefits, both economic and social. They add value to the state's abundant agricultural produce, reducing post-harvest losses and ensuring better prices for farmers. These units create employment opportunities, especially in rural areas, helping to curb migration. They also promote entrepreneurship by encouraging small and medium-scale industries. Processed food products have a longer shelf life, enabling access to distant markets and boosting exports. Additionally, the sector supports allied industries such as packaging, cold storage, and transportation. Overall, food processing contributes to rural development, increases farmers' income, and strengthens Bihar's agro-based economy.

Conclusion

The food processing industry in Bihar holds immense potential due to the state's rich agricultural base, diverse crops, and growing domestic market. Despite challenges such as inadequate infrastructure, limited cold storage facilities, and irregular power supply, the sector offers significant opportunities for value addition, employment generation, and rural development. By addressing existing bottlenecks through improved infrastructure, modern technology adoption, skill development, and better market linkages, Bihar can transform its agricultural surplus into high-value products. Strengthening this sector will not only boost farmers' income but also enhance the state's economic growth and position Bihar as a competitive player in the national food processing market.

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