

Blue Gold of India- From Indian Farmers to Global Plates

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Abstract—This study examines the growth, significance, and challenges of the prawn export industry in the global seafood market. Prawns have emerged as a high-value export commodity due to their strong international demand, nutritional benefits, and widespread consumer acceptance. The study highlights the role of aquaculture as the primary source of production, supported by technological advancements that enhance productivity, quality, and efficiency. It also explores the contribution of the prawn export sector to economic development through foreign exchange earnings, employment generation, and the growth of allied industries. At the same time, the study addresses key challenges such as price volatility, environmental concerns, disease outbreaks, and stringent international regulations. Emphasis is placed on the increasing importance of sustainable practices, traceability, and compliance with global standards.

Keywords— Prawn exports, MPEDA, price fluctuation, global demand, reefer logistics

I. INTRODUCTION

The prawn export industry plays a significant role in the global seafood market due to its high economic value and increasing international demand. Prawns are widely consumed across major markets such as the United States, Japan, the European Union, and China, owing to their rich nutritional content and versatility in food preparation. Over the years, globalization and advancements in transportation and cold storage have facilitated the expansion of seafood trade. Aquaculture has emerged as the primary source of prawn production, ensuring a steady and reliable supply to meet global demand. Technological innovations in breeding, feeding, and disease management have further improved productivity and quality.

At the same time, the industry faces challenges related to environmental sustainability, disease outbreaks, and strict international quality standards.

Regulatory compliance, traceability, and eco-friendly farming practices have become essential for maintaining export competitiveness. The prawn export sector also contributes significantly to economic development by generating foreign exchange earnings and creating employment opportunities. Additionally, it supports various allied industries such as processing, packaging, and logistics.

II. STATEMENT OF THE PROBLEM

The prawn export industry is economically significant, contributing greatly to foreign exchange earnings, employment, and growth, driven by strong global demand. However, it faces challenges such as price volatility, strict international regulations, and logistics issues like inadequate cold chain infrastructure. Environmental risks, changing consumer preferences, and limited access to finance and technology further impact its performance. Despite these constraints, prawns remain a high-value commodity, contributing a major share to export earnings.

III. REVIEW OF LITERATURE

Ahmed, N., Demaine, H., & Muir, J. F. (2019). Freshwater prawn farming in Bangladesh: history, present status and future prospects. *Aquaculture Research*. Alam, S. M. N. (2024). Navigating Nitrofurans Challenges in Farmed Prawn (*Macrobrachium rosenbergii*): Strengthening Safety and Export Potentials in Bangladesh. Flegel, T. W. (2019). Review of disease transmission risks from prawn products exported for human consumption. *Aquaculture*. Uddin, M. B., Sultana, T., & Rahman, M. M. (2018). Shrimp export marketing of Bangladesh. *Journal of the Bangladesh Agricultural University*.8. Yang, B., Anderson, J., & Fang, Y.

(2020). Trade duration of Chinese shrimp exports. *Aquaculture Economics & Management*. Geetha, R., Ravisankar, T., Patil, P. K., Avunje, S., et al. (2020). Trends, causes, and indices of import rejections in international shrimp trade with special reference to India

OBJECTIVES:

1. To examine the position of prawn exports in the global market
2. To analyze the impact of global demand on prawn exports
3. To understand about the price fluctuations in prawn export

IV. METHODOLOGY

This study is based entirely on secondary data collected from various reliable sources such as government publications, research articles, export reports, and international databases. Relevant information on prawn production, export performance, and global market trends was gathered from these published sources. The data were carefully reviewed, organized, and interpreted to understand the growth, challenges, and overall scenario of the prawn export industry. The study relies on the availability and accuracy of existing data sources.

TOOLS AND TECHNIQUES:

Market share Analysis, CAGR, Mean and Variance, Trend Analysis

V. ANALYSIS AND INTERPRETATION

TABLE NO:1 COUNTRY WISE DISTRIBUTION OF PRAWN (2024-2025)

COUNTRY	EXPORT VOLUME(MT)	MARKET SHARE (%)
USA	355000	45
CHINA	165000	21
EU	110000	14
SOUTH-EAST ASIA	75000	10
JAPAN	45000	6
TOTAL	785000	100

SOURCE: www.mpeda.gov.in

The table shows that the USA is the largest importer of prawns, accounting for 45% of total exports, indicating its dominant position in the market. China is the second-largest importer with a 21% share, reflecting strong demand in Asian markets. The European Union holds a moderate share of 14%,

showing stable consumption. South-East Asia contributes 10%, indicating regional trade importance. Japan has the smallest share at 6%, despite being a developed market. Overall, the export market is highly concentrated in a few countries, especially the USA and China.

TABLE NO:5.2 EXPORT VOLUME AND VALUE OF PRAWN FROM INDIA

YEAR	EXPORT VOLUME (MT)	EXPORT VALUE (\$ BILLION)	GROWTH (%)
2018-2019	620000	4.50	—
2019-2020	650000	4.80	4.8
2020-2021	590275	4.43	-9.2
2021-2022	728123	5.83	23.4

2022-2023	711099	5.48	-2.3
2023-2024	740000	5.60	4.6
2024-2025	785000	6.20	6.1

SOURCE: www.mpeda.gov.in

$$CAGR = [(785000/620000)^{(1/n)}]-1 = 3.4\%$$

The table shows that prawn export volume and value have generally increased over the period from 2018–2019 to 2024–2025. Export volume rose from 620,000 MT to 785,000 MT, while export value increased from \$4.50 billion to \$6.20 billion, indicating overall growth. However, there were fluctuations, with a decline in 2020–2021 due to negative growth (-9.2%). A strong recovery is seen in 2021–2022 with the highest growth rate of 23.4%. The following years show moderate and stable growth trends. The CAGR of 3.4% reflects steady long-term growth in prawn exports.

TABLE NO 5.4: PRICE FLUCTUATIONS IN PRAWN EXPORTS

YEAR	PRICE PER KG
2018-2019	7.2
2019-2020	7.6
2020-2021	7.5
2021-2022	8.0
2022-2023	7.7
2023-2024	7.4
2024-2025	7.6
Total	53
Mean	7.56
C V	3.3
Trend	
2029	7.76
2030	7.82
2031	7.88

SOURCE: www.mpeda.gov.in

The data presented illustrates the price fluctuations in prawn exports over a seven-year period, from 2018–2019 to 2024–2025. The export price reached its peak at 8.0 in 2021–2022, while the lowest value was recorded at the start of the period at 7.2. With a calculated mean price of 7.56 and a relatively low standard deviation of 0.25, the market shows consistent valuation despite minor year-on-year shifts. The Coefficient of Variation (CV) stands at 3.3%, which indicates a high level of stability and low volatility in global prawn pricing. Overall, the trajectory suggests a resilient market where prices fluctuate within a narrow, predictable range rather than experiencing sharp inflationary or deflationary shocks.

VI. FINDINGS AND RECOMMENDATIONS

The prawn export industry plays a significant role in global seafood trade, contributing to foreign exchange earnings and employment generation. India is one of the leading exporters of prawns, with a stable and growing share in the global market, though it faces strong competition from countries like Ecuador and Vietnam. Export performance shows moderate growth, with fluctuations in export quantity and value due to price volatility and changing global demand. The United States is the largest importer of Indian prawns, followed by China and the European Union, indicating high market concentration. Strict quality standards and certification requirements (like hygiene, traceability, and residue limits) significantly influence export acceptance.

Exporters should focus on market diversification to reduce dependency on a few major importing countries. There is a need to improve cold chain infrastructure including storage, transportation, and port facilities. Small-scale exporters should be supported through financial assistance, training, and access to modern technology. Strict monitoring should be implemented to ensure compliance with international quality and safety standards. Investment in value-added processing should be encouraged to increase profit margins and meet global demand. The

government should provide export incentives and policy support to enhance competitiveness.

VII. CONCLUSION

The prawn export industry is a vital component of the global seafood trade and contributes significantly to economic growth, employment, and foreign exchange earnings. India has established a strong position in the international prawn market; however, the industry faces multiple challenges such as price volatility, strict quality regulations, infrastructure limitations, and environmental concerns. To remain competitive, exporters must focus on improving quality standards, adopting advanced technologies, and ensuring efficient supply chain management.

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