Available online at
http://agrospheresmagazine.vitalbiotech.org/

ISSN (E): 2582 – 7022

Agrospheres:e- Newsletter, (2026) *7*(8), 4-8

Article ID: 1041

Marine Products Industry in India: Current Status, Growth Potential, Challenges and Future Prospects

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Article History
Received: 24.08.2026
Revised: 29.08.2026
Accepted: 04.08.2026

INTRODUCTION

The marine products industry is a strategic component of the global blue economy, contributing significantly to food and nutritional security, employment generation, foreign exchange earnings, and sustainable economic development. The sector encompasses capture fisheries, aquaculture, seafood processing, value addition, marketing, transportation, and export of marine products. Globally, increasing demand for protein-rich foods, technological advancements in aquaculture, and expansion of international seafood trade have accelerated the growth of the industry. India, endowed with an extensive coastline, a vast Exclusive Economic Zone (EEZ), and abundant inland water resources, has emerged as the world's second-largest fish producer and a leading exporter of marine products. The sector plays a crucial role in enhancing rural livelihoods, supporting coastal communities, and contributing to the national economy. Despite its substantial achievements, the industry continues to face challenges related to resource sustainability, climate change, infrastructure deficits, post-harvest losses, and stringent international quality standards. At the same time, opportunities in value addition, seafood processing, marine biotechnology, and diversification of export markets present significant prospects for future growth. This article reviews the global and Indian marine products scenario, with special emphasis on Gujarat, and discusses the industry's growth potential, key challenges, regulatory framework, and strategies for achieving sustainable and competitive development.

ISSN (E): 2582 – 7022

Global Marine Products Scenario

The global marine products industry is a vital component of the world economy, contributing significantly to food security, employment generation, international trade, and sustainable economic development. The industry encompasses capture fisheries, aquaculture, seafood processing, value addition, transportation, marketing, and export of marine products. Growing consumer awareness regarding the nutritional benefits of seafood, coupled with rising disposable incomes and increasing global demand for protein-rich diets, has accelerated the expansion of the marine products sector. Global fisheries production has shown a steady upward trend over the past five decades. The total world fisheries production reached approximately 197 million tonnes in 2025, comprising 92.9 million tonnes from capture fisheries and 104.1 million tonnes from aquaculture. A notable trend is the continuous growth of aquaculture production, whereas capture fisheries have largely stabilized due to limitations in marine resources and the need for sustainable exploitation. Aquaculture has therefore emerged as the principal driver of growth in global seafood production.

Human consumption accounts for the largest share of global fish utilization. In 2025, around 175.3 million tonnes of fish were consumed as food, while 21.7 million tonnes were utilized for non-food purposes such as fish meal, fish oil, pharmaceuticals, cosmetics, and other industrial products. Global per capita fish consumption has also increased steadily, reaching approximately 21.1 kg per person, reflecting the growing importance of seafood in ensuring nutritional security. Asia continues to dominate global fisheries and aquaculture production. China remains the world's largest producer, followed by India, Indonesia, Vietnam, and Bangladesh. These countries have strengthened their competitive position through technological advancements in aquaculture, improved breeding practices, scientific feed management, disease control, modern processing facilities, and efficient export-oriented value chains. India has emerged as the second-largest aquaculture producer globally, highlighting its increasing significance in the international seafood market.

The global marine products market is witnessing a gradual shift from traditional raw seafood exports towards high-value processed and value-added products. Consumer demand is increasingly focused on frozen seafood, ready-to-cook products, ready-to-eat meals, canned fish, fish fillets, battered shrimp, and other convenience foods. This transition has encouraged investments in advanced seafood processing technologies, cold-chain infrastructure, quality assurance systems, traceability mechanisms, and international food safety certifications. Despite remarkable growth, the global marine products industry faces several challenges. Overfishing, climate change, marine pollution, habitat degradation, illegal, unreported and unregulated (IUU) fishing, rising fuel costs, and stringent quality standards imposed by importing countries continue to affect the sustainability and profitability of the sector. Consequently, governments and international organizations are increasingly promoting responsible fisheries management, ecosystem-based approaches, sustainable aquaculture practices, and blue economy initiatives to ensure long-term conservation of marine resources.

Overall, the global marine products industry possesses tremendous growth potential. Expansion of sustainable aquaculture, development of marine biotechnology, greater value addition, digitalization of seafood supply chains, and increasing international demand for healthy seafood products are expected to drive future growth. These developments will further strengthen the role of the marine sector in enhancing global food security, employment, foreign exchange earnings, and sustainable economic development.

ISSN (E): 2582 – 7022

Indian Marine Products Industry

India is one of the world's leading producers and exporters of marine products, supported by an extensive coastline of 11,098.81 km, an Exclusive Economic Zone (EEZ) of about 2 million sq. km, and rich inland water resources. The country is the second-largest fish producer globally, contributing nearly 8% of global fish production, and exports marine products to more than 130 countries.

The marine fisheries sector plays a vital role in India's economy by contributing to food and nutritional security, employment generation, foreign exchange earnings, and rural livelihoods. As of 2025, the industry provides employment to approximately 5.8 million people, directly and indirectly. Major marine product exporting states include Andhra Pradesh, Gujarat, Kerala, Tamil Nadu, and West Bengal, while significant untapped potential exists in Odisha, Karnataka, Maharashtra, and the Andaman & Nicobar Islands.

India possesses a well-developed fisheries infrastructure comprising 1,537 fish landing centres, around 5,000 fishing villages, and nearly 4.9 million fisherfolk. The country's major export commodities include shrimp, prawns, ribbonfish, squid, and cuttlefish, with shrimp accounting for the largest share of export earnings.

The Indian marine products industry is increasingly shifting towards value-added seafood processing, improved cold-chain logistics, quality assurance, and sustainable aquaculture practices. Government initiatives such as the Pradhan Mantri Matsya Sampada Yojana (PMMSY), the Marine Products Export Development Authority (MPEDA), and the Blue Economy Mission are promoting infrastructure development, technology adoption, export competitiveness, and sustainable resource management.

Despite its remarkable progress, the sector continues to face challenges including post-harvest losses, inadequate infrastructure, climate change, fluctuating international demand, and the need for greater value addition. Addressing these challenges through technological innovation, diversification, and sustainable fisheries management will further enhance India's position in the global marine products market.

Gujarat Marine Industry

Gujarat is one of India's leading marine fisheries states, endowed with the country's longest coastline of about 1,600 km along the Arabian Sea. The state possesses abundant marine resources, well-developed fishing harbours, and a strong seafood processing and export network, making it a major contributor to India's marine economy.

Gujarat recorded a total fish production of 907,901 tonnes in 2023–24, comprising 704,828 tonnes of marine fish and 203,073 tonnes of inland fish. The state's major marine species include small sciaenids, ribbonfish, and Bombay duck, while prawn, catla, rohu, and mrigal dominate inland fisheries. Gujarat is also among the leading exporters of marine products, with exports increasing from 279,751 metric tonnes valued at ₹5,019.48 crore in 2019–20 to 336,961 metric tonnes worth ₹6,087 crore in 2023–24, reflecting strong growth in international trade.

The marine sector contributes significantly to employment, income generation, coastal livelihoods, and export earnings. The state has established seafood processing units, cold-chain facilities, fishing harbours, and modern landing centres that support the fisheries value chain. In addition, government initiatives promoting sustainable fishing, aquaculture development, infrastructure improvement, and value addition have further strengthened the industry's competitiveness.

Despite its strong performance, Gujarat's marine industry faces challenges such as climate change, overexploitation of marine resources, post-harvest losses, fluctuating export demand, and the need for greater value

addition. Strengthening sustainable fisheries management, expanding seafood processing, adopting advanced technologies, and exploring new export markets will further enhance Gujarat's leadership in India's marine products industry.

5. Growth Potential

India's marine products industry has immense growth potential due to its rich marine resources, expanding global seafood demand, favourable government policies, and increasing focus on value addition. Opportunities exist across product diversification, export market expansion, seafood processing, and marine biotechnology.

5.1 Product Potential

India has significant potential to diversify its marine product portfolio beyond traditional exports. High-value species such as mud crab, white prawn, tiger prawn, marine shrimp, tuna, squid, cuttlefish, lobster, pearl spot, oyster, and deep-sea shrimp offer excellent commercial opportunities. In addition, the industry is witnessing a shift from conventional exports towards value-added products such as fish fillets, canned fish, battered shrimp, ready-to-cook, and ready-to-eat seafood. Better utilization of underexploited deep-sea resources and species diversification can substantially enhance export earnings.

5.2 Market Potential

The global demand for Indian marine products continues to grow, creating opportunities to expand both existing and emerging export markets. While the USA, Japan, Spain, Italy, and the UK remain major destinations, countries such as China, Vietnam, Germany, Belgium, Canada, and Hong Kong offer considerable future potential. Rising domestic seafood consumption, increasing health consciousness, and improved cold-chain logistics further strengthen market opportunities.

5.3 Processing Potential

Value addition through seafood processing is a key driver of industry growth. Increasing consumer preference for ready-to-eat and ready-to-cook seafood products has created strong demand for modern processing facilities. Investments in processing technologies, cold-chain infrastructure, quality assurance systems, HACCP certification, packaging, and traceability can significantly improve export competitiveness and reduce post-harvest losses. Expanding processing capacity will enable India to capture greater value from its marine resources.

5.4 Marine Biotechnology Potential

Marine biotechnology represents an emerging frontier of the blue economy. Marine organisms provide valuable bioactive compounds used in pharmaceuticals, nutraceuticals, cosmetics, agriculture, and industrial products**.** Advances in marine biotechnology offer opportunities for developing new drugs, functional foods, disease-resistant aquaculture species, and environmentally sustainable production systems. With its rich marine biodiversity, India has considerable scope to promote research, innovation, and commercialization in this high-growth sector, thereby strengthening the competitiveness of its marine products industry.

Challenges of Marine Products Industry in India

The major challenges faced by Marine Products Industry in India are as follows:

- Rising operational and fuel costs, reducing profitability.
- Inadequate fishing harbours, cold-chain, and processing infrastructure.
- Irregular supply and seasonal availability of raw materials.
- Climate change, marine pollution, and overexploitation of fishery resources.
- Low level of value addition and limited seafood processing capacity.
- Dependence on a few export products and markets.
- Stringent international food safety and quality standards.
- Shortage of skilled manpower and adoption of modern technologies.

ISSN (E): 2582 – 7022

- Limited access to institutional finance, particularly for small-scale fishers.
- Increasing global competition and market price fluctuations.

Strategies for Sustainable Growth

The major strategies for strengthening sustainable growth of Marine Products Industry in India are as follows:

- Strengthen fishing harbours, cold-chain, storage, and processing infrastructure.
- Promote value-added seafood products and product diversification.
- Expand exports to emerging international markets.
- Encourage sustainable fishing practices and scientific aquaculture.
- Adopt modern technologies, digital traceability, and quality certification systems.
- Improve awareness and effective implementation of government schemes.
- Facilitate easy access to credit and financial support for fishers and entrepreneurs.
- Invest in marine biotechnology, research, and innovation.
- Enhance skill development and capacity building across the fisheries value chain.
- Promote public–private partnerships to improve competitiveness and sustainability.

CONCLUSION

The marine products industry is a strategic pillar of India's blue economy, making significant contributions to food and nutritional security, employment generation, export earnings, and sustainable economic development. Backed by abundant marine resources, an extensive coastline, expanding aquaculture, and supportive government initiatives, India has emerged as one of the world's leading producers and exporters of marine products. Gujarat further strengthens this position through its rich marine resources, robust fisheries infrastructure, and growing seafood exports. Despite its impressive growth, the industry continues to face challenges such as climate change, overexploitation of marine resources, inadequate infrastructure, post-harvest losses, low value addition, and stringent international quality standards. Addressing these constraints through sustainable fisheries management, technological innovation, infrastructure development, skill enhancement, and improved access to finance is essential for ensuring long-term competitiveness.

Future growth of the sector will depend on greater diversification of marine products, expansion into emerging export markets, promotion of value-added seafood processing, and increased investment in marine biotechnology and digital technologies. A coordinated approach involving government agencies, research institutions, private enterprises, and fishing communities will be crucial for unlocking the sector's full potential. With appropriate policy support and sustainable resource management, the Indian marine products industry is well positioned to become a globally competitive, resilient, and environmentally sustainable driver of economic growth and the blue economy.