



Emerging Trends in Fish Consumption in India: Market Transformation, Consumer Preferences and Future Opportunities

*Dr. Vinay Maruti Hatte

Assistant Fisheries Development Officer, Jalgaon, India

*Corresponding Author's email: hatte.vinay@gmail.com

Fish is an important component of the Indian food system, providing high-quality protein, essential fatty acids, vitamins and minerals while supporting millions of livelihoods across capture fisheries, aquaculture, processing, trade and retail. Indian fish consumption has traditionally been shaped by regional food cultures, availability, price, seasonality and household preferences. However, urbanization, changing lifestyles, increasing awareness of nutrition, growth of cold-chain infrastructure, organized retail and digital commerce are contributing to changes in the way fish is purchased, prepared and consumed. Recent evidence from ICAR-Central Institute of Fisheries Technology indicates that consumer choices are influenced by price, sensory quality, availability, source and perceived safety, while value-added fish products are increasingly relevant to convenience-oriented markets. The Indian seafood processing sector is also diversifying from conventional fresh and frozen products toward ready-to-cook, ready-to-eat, marinated, coated, restructured and other value-added products. This article reviews emerging trends in fish consumption and fish-food markets in India, examines drivers of consumer change, discusses opportunities for value addition and organized marketing, and identifies challenges related to affordability, quality, food safety, cold chain, consumer awareness and sustainability.

Keywords: Fish consumption, Indian fish market, consumer behaviour, value-added seafood, ready-to-cook, ready-to-eat, convenience foods, cold chain, seafood processing, organized retail

Introduction

India has a diverse fish-consuming population with substantial regional variation in species preference, frequency of consumption, preparation methods and marketing channels. Fish is consumed as a traditional food in many coastal, riverine and inland communities, while its presence is also expanding in urban and organized food markets. The Indian fish market is undergoing a gradual transition from predominantly fresh, whole-fish and wet-market transactions toward a more diversified system that includes chilled cuts, fillets, frozen products, marinated fish, ready-to-cook products, ready-to-eat foods, packaged seafood and digital ordering. ICAR-CIFT has documented increasing interest in value-added fish products and notes that changing consumer demand is encouraging the development of convenient consumer-pack products. This transition does not imply that fresh fish is being replaced. Rather, Indian consumers are increasingly presented with multiple formats, and preferences vary according to region, income, age, household structure, price, product availability and cultural practices.

Changing Landscape of Fish Consumption in India

Fish consumption in India is characterized by considerable geographical and socioeconomic diversity. An ICAR-CIFT study of household consumption behaviour reported relationships

between fish consumption and income, household characteristics and location. More recent consumer research from Kerala found that price, sensory perception, preferred fish availability and perceived safety significantly influence consumption behaviour. These findings indicate that the future fish market cannot be understood through production volumes alone. Consumer-oriented factors such as convenience, freshness, hygiene, traceability, packaging, cooking time and price are increasingly important dimensions of market development.

Major Drivers of Emerging Consumption Trends

Urbanization and Changing Lifestyles

Urban households, working professionals and smaller households may place greater value on foods that reduce cleaning, cutting, deboning and preparation time. This creates opportunities for portioned, cleaned, filleted, marinated and ready-to-cook fish products.

Nutrition and Health Awareness

Fish is widely recognized as a nutrient-dense food containing high-quality protein and, depending on species, important long-chain omega-3 fatty acids and micronutrients. Growing attention to balanced diets can support demand for fish, although affordability and local availability remain important determinants.

Convenience and Time-Saving Foods

Convenience is a major driver of value-added seafood development. ICAR-CIFT has developed products such as fish fingers, fish balls, fish burgers, fish sausages, cutlets, wafers, pickles and other ready-to-cook and ready-to-eat products.

Growth of Cold Chain and Organized Retail

Improved refrigeration, insulated transport, cold storage, modern retail and digital delivery can make fish available in standardized and hygienically handled formats. Government-supported fisheries infrastructure has expanded transportation, retail and value-addition facilities under PMMSY.

Digital Commerce

Online fish purchasing provides consumers with access to home delivery, product information and standardized packaging. Digital platforms can also support traceability and direct connections between suppliers and consumers, although adoption depends on price, logistics, trust and product quality.

Changing Food Culture

Urban consumers are increasingly exposed to cuisines and seafood preparations from different parts of India and other countries. This can increase interest in fillets, burgers, seafood snacks, marinated products and other formats alongside traditional preparations.

Emerging Product Trends in the Indian Fish Market

Fresh Chilled and Cut Fish

Fresh fish remains a major component of the Indian market. However, there is growing scope for hygienically handled, cleaned, portioned and chilled fish with standardized packaging and labeling.

Ready-to-Cook Fish Products

Ready-to-cook products reduce preparation time while retaining flexibility for household cooking. Examples include marinated fillets, cleaned cuts, fish fingers, nuggets, coated products and spice-based preparations.

Ready-to-Eat Seafood

Ready-to-eat fish products can include cooked fish curries, retort-pouch products, canned seafood, snacks and other products requiring minimal preparation. Their development requires strong controls for thermal processing, packaging, shelf life and food safety.

Frozen Fish and Seafood

Freezing provides longer storage and facilitates distribution beyond production centres. Products include whole frozen fish, fillets, shrimp, squid and value-added frozen products.

The Ministry of Food Processing Industries identifies frozen seafood, ready-to-eat snacks and ready-to-cook products among emerging areas of opportunity.

Marinated and Coated Products

Marinated and coated products combine convenience with sensory appeal. Coating can improve texture and product presentation and can be adapted to different consumer preferences.

Fish Pickles, Chutneys and Traditional Value Addition

Traditional Indian fish preservation practices such as pickling can be modernized through hygienic processing, standardized formulations, improved packaging and shelf-life validation.

Restructured Fish Products

Surimi-based products, fish balls, sausages, burgers, nuggets and other restructured products provide opportunities to utilize minced fish and selected underutilized species. These products can also support standardized portion sizes and product formulations.

Fish-Based Functional and Nutrient-Rich Foods

Emerging product development can focus on protein-rich foods, omega-3-containing products and foods incorporating fish-derived ingredients. Scientific validation, regulatory compliance and responsible health communication are essential for such products.

Technology Trends Supporting Fish Consumption

Advanced Preservation

Modern fish preservation includes chilling, freezing, retort processing, modified-atmosphere approaches, drying and other technologies. ICAR-CIFT identifies preservation, packaging and value addition as important areas of fisheries post-harvest research.

Packaging Innovation

Packaging has a direct role in hygiene, shelf life, product presentation, transport and consumer convenience. Vacuum packaging, modified-atmosphere packaging and improved barrier materials can support chilled and processed fish products.

Traceability and Digital Information

Digital records can support traceability from production and handling through processing and retail. Traceability is particularly important for food safety, quality assurance and export-oriented value chains.

Processing Automation

Mechanization of cutting, filleting, deboning, grading, portioning and packaging can improve consistency and reduce labour requirements. Such technologies can support scaling of hygienic fish processing.

6. Consumer Expectations in the Emerging Market

The contemporary fish consumer increasingly evaluates products on multiple attributes rather than price alone. Recent ICAR-CIFT research in Kerala found that price was a major determinant, while sensory characteristics, availability, source and perceived safety also influenced consumption.

Freshness and sensory quality

Affordable price

Hygienic handling

Food safety assurance

Convenience and reduced preparation time

Reliable availability

Appropriate packaging

Product information and labeling

Traceability and source information

Consistent taste and quality

Suitable portion sizes

Ease of storage and cooking

Market Opportunities for Fisheries and Food Entrepreneurs

The changing consumption environment creates opportunities throughout the fisheries value chain. Entrepreneurs can develop products and services that address convenience, quality, affordability and trust.

- Cleaned and portioned fresh fish
- Vacuum-packed and chilled fish
- Marinated fish and seafood
- Frozen fillets and seafood
- Fish fingers, nuggets and cutlets
- Fish burgers and sausages
- Fish pickles and chutneys
- Ready-to-eat regional fish curries
- Fish-based snacks
- Specialized products for institutional catering
- Online fish retail and home delivery
- Cold-chain and last-mile logistics
- Traceability and digital quality-assurance services
- Fish by-product and waste valorization

Role of Government Programmes and Infrastructure

Government policy is increasingly emphasizing modernization of the fisheries value chain. The Pradhan Mantri Matsya Sampada Yojana has supported infrastructure associated with fish transportation, retail markets, kiosks, e-marketing and value addition. As reported by the Government of India, approved activities by March 2026 included thousands of fish transportation and handling units, fish retail markets and kiosks, along with value-addition infrastructure. Such infrastructure can support the transition from fragmented fish marketing toward more organized, hygienic and consumer-oriented supply chains. However, infrastructure investment needs to be accompanied by food-safety systems, skilled manpower, quality standards and economically viable business models.

Challenges in Expanding Fish Consumption and Value-Added Markets

Price and Affordability

Price is a major factor in consumer choice. Recent evidence from Kerala demonstrates that fish price can strongly influence consumption frequency.

Cold-Chain and Logistics Costs

Fish is highly perishable, and maintaining temperature control from harvest through retail requires investment and operational discipline. Gaps in cold-chain infrastructure can affect quality and increase losses.

Food Safety and Hygiene

The expansion of processed and packaged seafood requires strict control of microbial hazards, chemical hazards, handling conditions, processing parameters and storage temperatures.

Consumer Trust

Consumers need confidence regarding freshness, species identity, origin, processing date, storage conditions and product safety. Transparent labeling and traceability can strengthen trust.

Cultural and Regional Preferences

Fish consumption patterns vary widely across India. A product successful in one region may not have the same acceptance elsewhere. Product development therefore needs localization of species, flavour, texture, packaging and price.

Limited Processing of Domestic Species

A significant opportunity remains for developing convenient products from a wider range of Indian freshwater, brackishwater and marine species. ICAR-CIFT has highlighted the scope for utilizing commercially important as well as less-utilized fishes in value-added products.

Sustainability Considerations

Growth in fish consumption must be supported by responsible fisheries and aquaculture. Increasing demand should not lead to unsustainable exploitation of wild stocks. Aquaculture expansion should consider water use, feed efficiency, disease control, waste management, biodiversity and ecosystem impacts. Value addition can contribute to sustainability by improving utilization of harvested fish, reducing avoidable post-harvest losses and creating markets for suitable underutilized species. By-product utilization can further improve resource efficiency. ICAR-CIFT identifies utilization of secondary raw materials and fishery wastes for high-value products as an important research area.

Future Outlook

The Indian fish market is likely to become increasingly diversified. Fresh fish will continue to have an important role, particularly where traditional consumption patterns and local markets remain strong. At the same time, urbanization, organized retail, cold-chain development and convenience-oriented food habits are likely to support further development of chilled, frozen, ready-to-cook and ready-to-eat products.

Expansion of hygienically handled and portion-controlled fish products.

Growth of ready-to-cook and ready-to-eat seafood categories.

Greater use of cold-chain and temperature-monitoring technologies.

Expansion of online and omnichannel seafood retail.

Development of region-specific value-added fish products.

Greater utilization of underutilized species and processing by-products.

Improved traceability, labeling and quality assurance.

Greater integration of fisheries production with food-processing enterprises.

Development of sustainable and resource-efficient processing systems.

Use of data analytics and consumer research for product development and market segmentation.

Strategic Recommendations

Strengthen hygienic fish handling and cold-chain infrastructure from landing to retail. Promote research and development of affordable value-added products suited to Indian consumer preferences. Develop region-specific fish products based on local species, culinary traditions and purchasing power. Support small-scale processors and entrepreneurs with technical training, food-safety guidance and access to finance. Promote standardized labeling, traceability and quality assurance systems. Strengthen consumer awareness regarding nutritional value, safe handling and responsible fish consumption. Encourage utilization of underutilized fish species and processing by-products. Integrate food-processing, fisheries, retail and logistics enterprises into coordinated value chains. Encourage fisheries institutions and ICAR laboratories to transfer validated processing technologies to entrepreneurs. Promote sustainable production and responsible sourcing alongside market expansion.

Conclusion

Fish consumption in India is entering a period of diversification in which traditional fresh-fish markets coexist with increasingly sophisticated chilled, frozen, ready-to-cook, ready-to-eat and value-added product segments. Consumer demand is influenced by a combination of price, sensory quality, availability, perceived safety, convenience and changing lifestyles. Evidence from ICAR-CIFT and government programmes indicates that value addition, modern processing, cold-chain development and improved marketing infrastructure are important components of this transition. The emerging market therefore offers significant opportunities for fisheries entrepreneurs, processors, retailers, start-ups and farmer organizations. The long-term development of fish consumption in India, however, will depend on maintaining affordability, ensuring food safety, strengthening cold-chain systems, adapting products to regional preferences and ensuring that increasing demand is matched by sustainable fisheries and aquaculture production. A consumer-oriented fisheries value

chain—linking responsible production with scientific processing, quality assurance, innovative products and efficient distribution—can help increase the economic and nutritional contribution of fish while creating new opportunities for employment, entrepreneurship and value addition in India.

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