

# *Constraints of Ornamental Fisheries in India: A Path to Sustainable Growth*

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## **ABSTRACT**

India's ornamental fisheries sector holds substantial promise for economic growth and job creation, supporting livelihoods across the country. While the domestic market is valued at approximately INR 500 crores, the sector's development is hampered by several challenges. These constraints include production issues like inconsistent breeding practices and inadequate feed, infrastructure limitations such as unreliable utilities and high costs, market-related problems like poor infrastructure and fluctuating demand, and institutional barriers such as limited access to credit. These challenges vary regionally. For example, Kolkata struggles with traditional practices and infrastructure deficits, Chennai with limited credit and extension support, and Mumbai with high costs and market access difficulties. To achieve sustainable growth, targeted strategies are needed. These include developing infrastructure, building capacity through training, providing institutional support, improving market linkages, empowering producers through organizations, and implementing supportive policies. Addressing these constraints will enable India to fully capitalize on the sector's potential.

## **INTRODUCTION**

The global ornamental fish industry is valued at approximately US\$ 20 billion, encompassing live fish,

aquarium tanks, plants, accessories, feed, and medicines. Over 2 billion live ornamental fish are traded annually, with more than 2,500

species in circulation, though only 30-35 freshwater species dominate the market (Kurup *et al.*, 2012). India's domestic ornamental fish trade is estimated at INR 500 crores (MPEDA, 2023), with significant activity in West Bengal, Maharashtra, Tamil Nadu, Karnataka, and Kerala. Kolkata, Chennai, and Mumbai remain the primary hubs for ornamental fish trading in the country.

India, with its rich biodiversity and favorable climatic conditions, is well-positioned to capitalize on this opportunity. However, despite its potential, the sector remains largely unorganized and faces numerous constraints that hinder its growth. These constraints vary regionally due to differences in climatic conditions, resource availability, and market dynamics. This article explores the key challenges in the ornamental fisheries sector, focusing on regional variations and proposing strategies for sustainable development.

### The Potential of Ornamental Fisheries in India

India's ornamental fisheries sector is concentrated in states of West Bengal, Tamil Nadu, Maharashtra, Karnataka, and Kerala. Cities such as Kolkata, Chennai, and Mumbai serve as major hubs for production and trade. The domestic market is estimated to be worth INR 500 crores (MPEDA, 2023), with significant export potential. The sector provides employment to thousands, particularly in rural areas, and has become a source of livelihood for many women through self-help groups and cooperatives.

However, the sector's growth is constrained by a range of factors, including inadequate infrastructure, lack of standardized breeding techniques, high freight costs, and limited access to institutional credit. These challenges vary across regions, necessitating targeted interventions.

## Key Constraints in Ornamental Fisheries

### 1. Production Constraints

- Lack of Standardized Breeding Techniques: Many producers rely on traditional methods, leading to inconsistent quality and low survival rates of ornamental fish.
- Inadequate Live Feed: The availability of live feed, such as tubifex worms, is often limited, affecting the health and growth of fish.
- Seasonal Production: Production is often affected by seasonal changes, leading to fluctuations in supply.

### 2. Infrastructure Constraints

- Energy and Water Supply: Frequent power cuts and inadequate water supply are major challenges, particularly in rural areas.
- High Rental Costs: The high cost of renting production and sales premises is a significant burden for small-scale producers.

### 3. Market Constraints

- Lack of Market Infrastructure: Poor market facilities and inadequate transportation networks hinder the efficient distribution of ornamental fish.
- Fluctuating Consumer Preferences: Producers often struggle to keep up with changing consumer demands, leading to unsold stock.

### 4. Institutional Constraints

- Limited Access to Credit: Small-scale producers often rely on moneylenders due to the lack of institutional credit facilities.
- Inadequate Training and Extension Services: Many producers lack access to

training programs on advanced breeding techniques, health management, and marketing strategies.

### Regional Variations in Constraints

The constraints in the ornamental fisheries sector vary significantly across regions, reflecting differences in resource availability, market dynamics, and institutional support (Devi, 2014).

#### 1. Kolkata

**Traditional Practices:** The sector in Kolkata is characterized by traditional, low-level networking and a lack of modern infrastructure.

**Key Constraints:** Energy deficits, inadequate water supply, and lack of market infrastructure.

#### 2. Chennai

**Homestead Culture:** Chennai's ornamental fisheries sector is based on homestead culture, with a focus on live feed availability.

**Key Constraints:** Energy deficits, lack of institutional credit, and poor extension support.

#### 3. Mumbai

**Commercial Orientation:** Mumbai's sector is more commercially oriented but faces challenges related to high rental costs and competition.

**Key Constraints:** Seasonal production, lack of market infrastructure, and inadequate knowledge of packaging and transportation.

### Government Schemes and Progress

The Indian government, both at the state and central levels, has introduced several schemes to promote the ornamental fisheries sector. These initiatives aim to address the constraints

and provide a conducive environment for growth.

#### 1. Central Government Schemes

- **Pradhan Mantri Matsya Sampada Yojana (PMMSY):** Launched in 2020, PMMSY aims to double fish production by 2024-25. It includes provisions for the development of ornamental fisheries, such as:
  - **Infrastructure Development:** Funding for modern breeding facilities, hatcheries, and market infrastructure.
  - **Capacity Building:** Training programs for farmers on advanced breeding techniques, health management, and marketing.
  - **Financial Assistance:** Subsidies and credit facilities for small-scale producers.
  - **Marine Products Export Development Authority (MPEDA):** MPEDA promotes ornamental fish exports through:
    - **Export Incentives:** Financial support for exporters to participate in international trade fairs.
    - **Quality Certification:** Assistance in obtaining international quality certifications to enhance market access.

#### 2. State Government Initiatives

- **West Bengal:** The state government has established ornamental fish cooperatives and provides subsidies for setting up breeding units. It also organizes training programs through the Fisheries Department.
- **Tamil Nadu:** The state has focused on homestead ornamental fish culture, providing technical support and financial assistance to farmers. The Tamil Nadu Fisheries Development Corporation

(TNFDC) plays a key role in promoting the sector.

- **Maharashtra:** The state government has launched schemes to develop ornamental fish clusters in Mumbai and surrounding areas. It also provides subsidies for infrastructure development and market linkages.

### Strategies for Sustainable Growth

To address these constraints and unlock the sector's potential, the following strategies are proposed:

#### 1. Infrastructure Development

- Invest in modern breeding facilities and ensure reliable energy and water supply.
- Develop market infrastructure, including transportation networks and sales outlets.

#### 2. Capacity Building

- Organize training programs on advanced breeding techniques, health management, and marketing strategies.
- Strengthen extension services to provide technical support to producers.

#### 3. Institutional Support

- Establish institutional credit facilities to reduce dependence on moneylenders.
- Promote cooperative societies and self-help groups to enhance collective bargaining power.

#### 4. Market Linkages

- Develop e-commerce platforms to connect producers with domestic and international buyers.
- Organize trade fairs and exhibitions to showcase Indian ornamental fish and explore new markets.

5. Forming Fish Farmer Producer Organizations (FFPOs) for ornamental fisheries can empower small-scale producers by enhancing collective bargaining power, improving access to credit and markets, and fostering sustainable growth through shared resources and knowledge.

### 6. Policy Interventions

- Provide subsidies and incentives for small-scale producers to adopt modern technologies.
- Equate ornamental fish breeding and culture with the agricultural sector for power and water tariffs.

### CONCLUSION

The ornamental fisheries sector in India holds immense potential for economic growth and employment generation. However, its development is hindered by a range of constraints that vary across regions. By addressing these challenges through targeted interventions, the sector can achieve sustainable growth and contribute significantly to the Indian economy. With the right support from government agencies, research institutions, and stakeholders, India can emerge as a global leader in the ornamental fish trade.

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