

Aquarium Fish Trade as an Enterprises



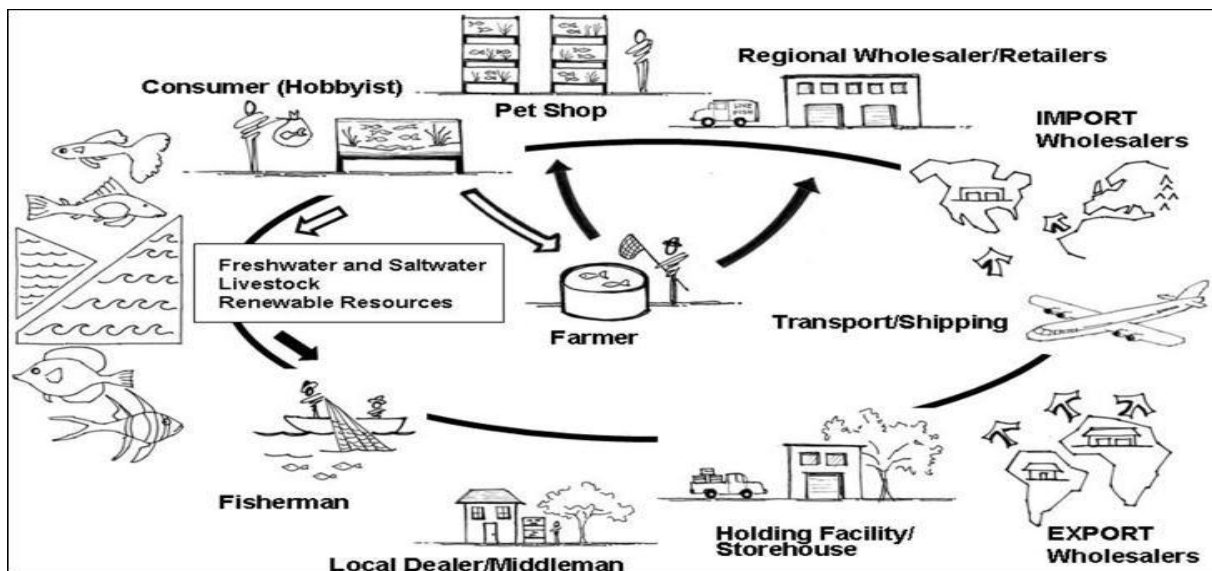
- Fishery trade plays an important role in the economy of many Asian, African and other low income countries.
- Ornamental fish production is one of the sunrise sectors growing at an annual rate of 14%. Currently about 280 exotic species and about 100 indigenous species of ornamental fish are being produced and traded.
- India's share in ornamental fish export is only 1% of the total traded value of 6 billion US\$ per annum (<http://www.icar.org.in/files/edu/EL-Fisheries.pdf>)

Industry definition of ornamental fish and live rock

The vast array of animal species that make up the generic 'ornamental aquarium fish trade' is staggering. Around 2,000 species and millions of specimens are traded annually in the ornamental fish trade (Table 1). The number of species is almost equally divided between freshwater and saltwater species. However, the greatest volume or number of individuals in the trade, some 90-96%, are of freshwater origin and are produced in commercial aquaculture facilities (Chapman 1997; Cato and Brown 2003).

Ornamental Species	Approximate Number of Species	Principal Geographic Regions
Fresh-, Salt-, and Brackish-Water Fishes	1539	Southeast Asia, Americas, Africa, Indonesia
Corals (hard and soft)	102	Indo-Pacific, Caribbean, the Red Sea
Invertebrates, other (e.g., shrimps, crabs, snails, starfish)	293	Indo-Pacific, Caribbean, the Red Sea

Reference: various sources; principal, Cato, J.C., and C. L. Brown. 2003. *Marine Ornamental Species: Collection, Culture, and Conservation*.



Schematic representation of typical distribution/trade process for livestock (e.g., fishes, corals, and other invertebrates) destined for ornamental aquarium use

List of Top 11 indigenous ornamental fish species according to customer preference⁸

Order	Family	Sl. No.	Scientific name	IUCN status	Price (pair)
Perciformes	Osphronemidae	1.	Colisa fasciata	LC	25-49
		2.	Colisa lalia	NE	20-41
		3.	Colisa chuna	NE	18-25
Tetraodontiformes	Tetraodontidae	4.	Tetraodon fluviatilis	NE	50-200
		5.	Tetraodon cutcutia	NT	40-280
Perciformes	Ambassidae	6.	Chanda ranga	NE	15-20
		7.	Chanda nama	LC	10-18
	Channidae	8.	Channa punctata	LC	12-18
		9.	Channa striata	LC	20-25
Cyprinodontiformes	Cyprinidae	10.	Puntius conchonius	VU	10-15
		11.	Puntius sarana sarana	VU	08-25

Export performance of Indian ornamental fishes

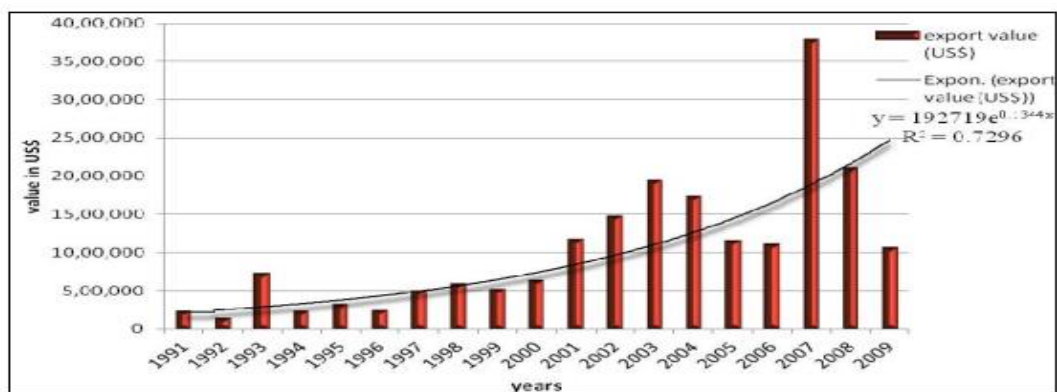


Fig 1: Ornamental fish exports from India and trend line during 1991-2009.

The ornamental fish exports from India showed an increasing trend and an exponential growth over the years (Fig. 1).

- The share of India in world ornamental fish exports fluctuated and remained less than one percent for most of the years. Its share in world market ranged from 0.12 percent to 1.16 percent during 1991- 2009.
- India gained highest market share of 1.16 percent during the year 2007.
- In 2008 it had a share of 0.64 percent which again declined to 0.39 percent in 2009.

World trade of Ornamental Fish

❖The trade in ornamental fish has been increasing since the 1980s.

❖The world trade of ornamental fishes estimated to the tune of US \$ 4.5 billion in 1995 and striding further , with an annual growth rate of about 10% per year.

❖According to FAO year book 2001, the trade for ornamental fish is estimated at US\$ 427.29 million (US\$ 244.62 million in import and US\$ 182.67million in export trade).

❖ USA is the largest market of the ornamental fishes, importing fish worth over US\$ 500 million every year, followed by the European Union and Japan.

❖ As per statistics of MPEDA (2000-2001), India exported ornamental fishes worth about Rs 228 lakh to following countries-

- | | |
|----------------------|----------------------|
| 1. Japan-24.1% | 13. Bangladesh-0.8% |
| 2. Singapore-20.2% | 14. Belgium-0.7% |
| 3. USA- 19.7% | 15. Malasiya-0.7% |
| 4. China-10.5% | 16. Nepal-0.6% |
| 5. Germany- 6.1% | 17. Switzerland-0.2% |
| 6. UK-4.4% | 18. Finland-0.2% |
| 7. Taiwan-6.4% | 19. Maldives-0.1% |
| 8. Thailand-2.6% | |
| 9. Hong Kong-2.6% | |
| 10. Sri Lanka-1.3% | |
| 11. Netherlands-1.2% | |
| 12. France-0.8% | |

❖ The vast potential of natural resources of India in comparison to other potential countries like Singapore, Sri Lanka, Malaysia, Indonesia, Hong Kong (China) and Thailand etc., offers great scope and possibilities of commercial freshwater ornamental fish production and export.

❖ It has also been noticed that Indian ornamental fishes are in greater demand in international market.

❖ The country possesses vast resources in terms of natural water bodies and species diversity and we have a great potential to increase the level of about US\$ 30 million (about Rs. 110 Crore every year).

❖ Systemic studies on the biology of most of the varieties of ornamental fishes are yet to be made. It is again important to adopt a rational exploitation strategy from natural freshwater resources where the indigenous varieties are available.

Present Scenario Of Ornamental Fishes Trade In India

- ❖ Different ecosystems of Indian waters possess a rich aquatic diversity with 2118 finfishes. Out of which 520 species are found exclusively in cold and warm waters.
- ❖ It is estimated that about more than 100 varieties of indigenous ornamental fishes are available in our freshwater ecosystem in addition to a similar number of exotic species that are bred in captivity.
- ❖ According to central inland fisheries research institute (CIFRI), the fish faunistic diversity of the north eastern India is 264 species (114 genera under 38 families and 10 orders).

Prospects of commercial production in India

- The export of ornamental fishes from the country at present is mainly confined to freshwater varieties and the export is limited to fishes collected from nature, predominantly from the North-eastern States and the Western Ghats (85%) and a few bred varieties of exotic species (15%).
- The availability of rich fauna in and around coral reefs area of Lakshadweep, Andaman and Nicobar Islands and Mandapam area, indicates a high population for export of marine ornamental fishes.
- Kolkata is the largest exit point , followed by Mumbai and Chennai. These metropolitan cities are also the major breeding centres for freshwater ornamental fishes .

Analysis of Export Promotion and Development Process:

- Trade promotion and Export Development is basically a management function requiring a holistic approach comprising of human resources management, production management, financial management, marketing management, operation management, logistic management, supply chain management and compliance global trade regulations.
- Export of live fish constitute 15% of aggregate global trade volume, rest being other ancillary services like feed, aquarium, aerator, plants and other elements. India's product portfolio is confined within live fish only signifying its presence in 15% of market segment.
- India exported to 78 countries during last 17 years with inconsistent frequency. 11 countries appeared to be most consistent buyer with steady imports in all 17 years. While in 25 countries export had been made only for 2 years. Absence of repeated purchase indicates lack of CRM and appropriate follow-up.
- Export promotion and trade development interface table indicates lack of component and sub component wise intervention.