

## Full Length Research Article

# Current trends in port-wise ornamental fish export from India

<sup>1,\*</sup>Dalie Dominic A., <sup>2</sup>Dr. N.D. Inasu and <sup>3</sup>Swapana Johny

<sup>1</sup>St. Mary's College, Thrissur

<sup>2</sup>Former Pro Vice Chancellor, Cochin University of Science & Technology

<sup>3</sup>Little Flower College, Guruvayoor, Thrissur

Accepted 04<sup>th</sup> August, 2013; Published Online 19<sup>th</sup> September, 2013

The ornamental fish industry represents an essential section of international trade, expanding in all dimensions and providing aesthetic pleasure and financial openings. Currently the European Union is the largest market for ornamental fish however, the single largest importer country is United States (US). A precise figure on the trade value of the ornamental fish industry is lacking still the live trade components imported to different countries is approximately estimated to be \$278 million US dollars according to the FAO. This paper summarizes the current trends in port-wise ornamental fish export from India. Data were collected on the export of ornamental fish from India. The data was analysed. Ornamental fish export totalled US dollar 1.24 million (559 lakhs) in 2010-2011. The average unit value realization has remained consistent. Exports rose from sixty tons to sixty five tons during the study period with compound annual growth rate of 1.34%.

**Key words:** Ornamental fish export, India, compound annual growth rate.

## INTRODUCTION

The major thrust in fisheries development today is optimizing production, generating employment and improving welfare of fishermen and their socioeconomic status (Rammohan, 2011). The ornamental fish sector plays a vital part in international fish trade contributing positively to rural development in many developing countries, with a positive impact throughout the value-chain (Monticini, 2010). However, The economics of international trade are controlled to a large extent by importing countries whose aquarist have financial buying power therefore the largest proportion of profit gained is by importers and retailers in importing country (Whittington, 2000). According to liven good and chapmann (2009) around 2000 species and millions of specimens are annually traded. The fishes alone comprise 1539 (Cato, Brown, 2003). Nevertheless, new and rare varieties are continuously introduced into the ornamental fish trade. The total turnover of the industry is estimated to be US \$  $7 \times 10^9$  annually (Andrews, 2006). The major importer of the fishes is the European union but the single country importing largest number of fish is USA. UK is the major importer of marine ornamental fish (UNEP). Asia being the home of 3500 fishes (Kottelat and Maurice, 1996) is also the largest exporter (Kutty, 2006). Though Asia is the major exporter India contributes a meager 0.25% (FAO 2003) a value Rs. 254.95 lakhs (MPEDA statistics review, 2003). There are one million fish hobbyist in India and the internal trade is worth US \$3.26 million according to the MPEDA. The local demand is mainly for exotic fish but the export is of Indigenous fresh water fishes from various natural blue aquatic zones. The export that started in 1969 with \$0.04 million (16.4 lakhs) grew to US \$ 0.99 (443.84 lakh) in 2004-2005 (Sekharan, 2006).

*\*Corresponding author: Dalie Dominic A.  
St. Mary's College, Thrissur.*

The first aquarium at Cochin was established in 1956, at Kunnumpuram in Fort Cochin (Shyma, 2008). The export of ornamental fish from Kerala began only in 1990's with a mere 1 or 2 actual exporters (Pramod, 2006) and major collections from the wild. The exploitation and trade of native ornamentals in India has been a sunrise industry and adequate time and expertise for monitoring and research has been unavailable, affecting the planning and implementation of conservation and management strategies for these native ornamentals. (Sujarittanonta, 2007). Therefore an analyses of the trends of export of ornamental fish from India would through light upon the future prospects of the industry. The statistics of export from Kerala would reveal the actual state of the OFI in Kerala.

## METHODOLOGY

The study was conducted from 2009 to 2012. The exploration of data included data collection from various databases, MPEDA, Journals and articles. The data were summarized in the form of tables. Graphs and suitable charts were prepared for the best interpretation. The export data from the statistical department, marine products export development authority were used to compute percentage growth, annual percentage growth rate. Percentage Growth is calculated from the formula  $PR = ((\text{Value of present year} - \text{Value of previous year}) / \text{Value of last year}) \times 100$ . The annual percentage growth rate is the percent growth divided by N, the number of years. Average unit value realization is calculated as value in rupees divided by kilogram. Compound annual growth rate =  $((\text{last Year}/\text{first year})^{(1/n-1)}) - 1$  here n = number of years.

## RESULT AND DISCUSSION

Ornamental fish export from India was US dollar 1.24 million (559 lakhs) in 2010-2011. India is a land of rich biodiversity,

**Table 1: Annual percentage Growth Rate of export of Ornamental fish in Terms of quantity quantity in tons**

Port	2005-6	2006-7	2007-8	2008-9	2009-10	2010-11
Calcutta	-11	25	-10	22.22	-9.09	260
Chennai	62.06	40.4	-15.15	-33.33	0	-63.63
Mumbai	-7.6	-8.33	9.09	41.66	-82.35	0
Mangalore	33.33	0	150	0	40	-42.85
Trivandrum	-75	100	0	0	0	0
Kochi	700	137.5	21.05	-65.21	-25	-16.66
Delhi			0	0	0	-
Calicut	-100	0	0	0	0	0
Total	35	-7.40	18.66	-22.47	-18.84	16.07

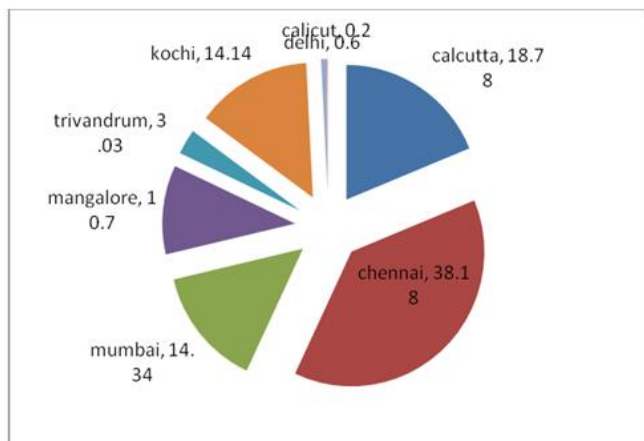
**Table 2: Annual percent Growth Rate of export of Ornamental fish in Terms of Value in Rupees**

Port	2005-6	2006-7	2007-8	2008-9	2009-10	2010-11
Calcutta	-15.48	26.23	-22.35	35.353	2.98	21.01
Chennai	67.96	-27.97	-17.19	-33.07	13.79	-38.38
Mumbai	-16.66	17.77	24.32	26.08	-5.17	20.00
Mangalore	91.66	-17.39	226.31	-6.45	41.37	-51.21
Trivandrum	-50	200	-55.55	25	140	25
Kochi	0	160	74.35	-53.67	-52.38	-27.77
Delhi	0	0	-	-70	133.33	142.85
Calicut	0	-100	0	0	0	0
Total	16.44	7.35	5.40	-7.17	3.13	-0.17

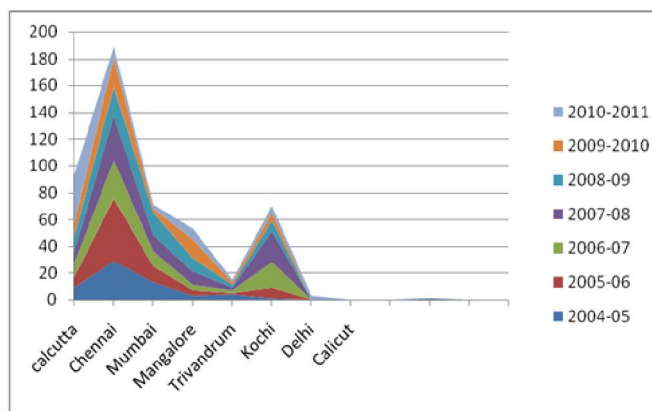
**Table 3: Progress of ornamental fish exports from India during 2004-2011**

Year	Quantity in tons	Value in Rupees	Average unit value realization (Rs/Kg)	Growth rate percent		Compounded annual growth rate percent
				Quantity	Value in rupees	
2004-05	60	4.44	.074	-	-	-
2005-06	81	5.17	.063	35	16.44	35
2006-07	75	5.55	.074	-7.40	7.35	11.80
2007-08	89	5.85	.065	18.66	5.40	14.05
2008-09	69	5.43	.078	-22.47	-7.17	3.56
2009-10	56	5.60	.1	-18.84	3.13	-1.37
2010-11	65	5.59	.086	16.07	-0.17	1.34

especially ichthyofaunal diversity. It is found from the Figure 1. that, majority of the export during the period 2004-05 to 2010-2011 was from Chennai followed by Calcutta, Mumbai and Kochi contributing 38.18, 18.78, 14.34 and 14.14 percent respectively. It is evident from Figure 2 that through the time series the different ports have increased the export quantity of fish. However Table 1 and Table 2 representing the annual percentage growth of fish trade presents a failing picture Table 3 gives the growth rate percent and compounded growth rate percent through the years. The average unit value realization has remained consistent with a slight peak in 2009-2010.



**Figure 1: Percentage of export of ornamental fish from different ports of India during 2004-05 to 2010-2011 in terms of quantity**



**Figure 2: Area chart representing differences in quantity of ornamental fish trade from different ports during the period 2004-05 to 2010-2011**

The negative values are indicative of a decrease in growth rate and this decrease is consistent for Chennai, Mumbai and Kochi that contributed the major share during the study period. Calcutta is the only port that has survived the deflation and maintained a high annual growth rate. During the period of 6 years export of ornamental fish grew from sixty tons to sixty five tons, its compound annual growth rate was 1.34%. However CAGR through the years indicate a declining trend fluctuating a great deal from year to year even giving a negative value for 2009-2010. Although, the total exports have faced several setbacks, fortunately the annual growth rate for the year 2010-2011 has been 16.07 providing promises for a

brighter future. Definitely, the decline in the value of exports for a developing industry is a trouble shooter, nevertheless it is quite considerable that the world is still living in severe economic crisis. Amidst all forewarning it is quite positive to think that the public are still purchasing fish, importing low value fish according to the export data, indicating a mild plateau or a fluctuating period. Reduced exports to Singapore and fishery regulations by the government are proposed to have controlled collection and trade of indigenous ornamental fishes. It is a major appraisal for the industry that the government has recognized the potential and has taken up several initiatives. Matsyafed, FIRMA, MPEDA, have come up to provide financial assistance for fish breeding and export, another major endeavour is the formation of Aqua technology park-Kavil (Kerala aqua ventures International Limited) by the government of Kerala and the private participation. MPEDA's innovative endeavour of Rainbow revolution, establishment of ornamental fish village at Pananghad and the ornamental fisheries bankable project of Nabard would remarkably lead Kerala achieve top rank in the Ornamental fish Industry. The initiatives by the government by the introduction of Rainbow revolution is expected to leap the industry in the future. Mitigation of lack of awareness and provision of proper training could only help prevent huge loss of foreign exchange.

## REFERENCES

- Pierluigi Monticini, 2010, the ornamental fish trade, Globefish Research Programme, Vol. 102
- Remadevi, K., and Indra T.J. (2009) Checklist of the native freshwater fishes of India, Zoological Survey of India.
- Sane, S. (2007) Understanding ornamental fish trade in India, Paper presented in technical session of Indaqua 2007 11-13 January, Chennai.
- Sekharan, M. (2006) Prospects of marketing the indigenous ornamental fishes of Kerala. PhD Thesis. Cochin University of Science and Technology, Kochi, Kerala, India
- Shaji, P.C, Easa, P.S. and Gopalakrishnan, A. (2000) Freshwater fish diversity of western ghats, In: Endemic fish diversity of Western Ghats (Ponniah, A.G., and Gopalakrishnan, A., Eds) NBFGR-NATP Publication, pp 13-32.
- Shyma, J; Dr. Thomson, K T, 2008 Economics of Ornamental Fisheries in Kerala thesis CUSAT
- Sujarittanonta, L., & Raghavan, R. Conservation of endemic and endangered freshwater fishes of Western Ghats biodiversity hotspot, Kerala, India–Concept of protected areas and ecotourism.
- Tissera K. 2010 Global trade in ornamental fish 1998-2007-presented at international aqua show 12th February 2010, cochin, Kerala
- Whittington, M., Pereira, M. A., Conclaves, M., & Costa, A. (2000). An investigation of the ornamental fish trade in Mozambique. MICOA, Maputo.

\*\*\*\*\*