

# Analysis of International Trade and Economical & Commercial Scope of Ornamental Fishes

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**Abstract**— Fisheries sector contributes significantly to the national economy while providing livelihood to approximately 14.49 million people in the country (Government of India, Ministry of Agriculture Department of Animal Husbandry, Dairying & Fisheries). It has been recognized for powerful income and employment generator as it stimulates growth of a number of subsidiary industries and is a source of cheap and nutritious food besides being a source of foreign exchange earner. In general growth in export is very much important to improve countries foreign exchange reserve, in simple word countries economic development. So it is important to understand overview of Fish Export and current scenario of economical and commercial scope of ornamental Fishes in terms of export.

**Index Terms**— Indian Fish Export, Ornamental Fish, International Trade, Commercial Scope Analysis, Global Market.

## I. INTRODUCTION

India is the second largest producer of fish in the world contributing to about 5.43% of global fish production. India is also a major producer of fish through aquaculture and ranks second in the world after China. The total fish production during 2011-12 is at 8.67 million tonnes with a contribution of 5.30 million tonnes from inland sector and 3.37 million tonnes from marine sector respectively. Fishery being one of the promising sectors of agriculture and allied activities in India, a growth target rate of 6% was fixed so as to achieve the overall growth rate of 4.1% for Agriculture during the 11th Five year Plan. During 2010-11, the volume of fish and fishery products exported from India was 8,13,091 tonnes worth Rs. 12,901.47 crores and during 2011- 12 for the first time export earnings have crossed USD 3.5 billion. Export aggregated to 8, 62,021 tonnes in volume valued at Rs. 16,597.23 crores. As per the estimates of Central Statistical Organization (CSO), the value of GDP from fisheries sector at current price during 2011-12 was Rs. 76699 crores which is about 4.15 per cent of the total GDP of Agriculture and allied sectors (Government of India, Ministry of Agriculture Department of Animal Husbandry, Dairying & Fisheries) .

## II. LITERATURE REVIEW

Indian waters possess a rich diversity of ornamental fishes, with over 300 varieties of indigenous species. However, the popularity and trade of ornamental fish in India is dominated

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by the exotic species that are bred in captivity. The world trade of ornamental fishes in 2006-07 was estimated to be nearly Rs. 3,950 crore of which India's share is estimated to be less than Rs. 6 crore. Singapore has over 20% share in the world market while Malaysia and Sri Lanka command 7% and 5%, respectively. USA is the largest market of the ornamental fishes, followed by the European Union and Japan (Ref. 2).

India has a rich resource of rivers, lakes, reservoirs and other water bodies suitable for rearing ornamental fishes. Some of the potential ornamental fish of India namely loaches, barbs, danios, catfishes, perches and cichlids, are in great demand in export market. In different parts of India goldfishes, angelfishes, koi carps, sharks, suckerfishes, gouramies etc are being grown in large scale. Integration of ornamental fish with orchids is also prevalent here. So Variety of fishes provides Indian fisher community a good employment opportunity and similarly exporters to provide helping hand to improve countries export specially neglected areas (Ornamental Fishes ) fish export..

The domestic market for ornamental fishes in India is estimated at Rs 20 crores and the domestic trade is at growing annual rate of 20%. Availability of considerable number of indigenous ornamental fish of high value in the country has contributed greatly for the development of ornamental fish industry in India. However there is a great demand for exotic fishes due to its variety of color, shape, appearance, etc. It has been estimated that more than 300 species of exotic variety are already present in the ornamental fish trade in India and still there is great market demand for exotic fishes in international market

The global trade of ornamental fishes including accessories and fish feed is estimated to be worth more than USD 15 billion with an annual growth of 8%. Around 500 million fishes are traded annually by 145 countries, of which 80-85% are tropical species. Domestic market for ornamental fish in India is much promising. At present, the demand for quality tropical fish far exceeds the supply (Handbook on Fisheries Statistics 2014).

## III. CHALLENGES:

The main challenges facing fisheries development in the country include development of sustainable technologies for fin and shell fish culture, Fish Seed Certification, yield optimization, infrastructure for harvest and post-harvest operations, landing and berthing facilities for fishing vessels and uniform registration of fishing vessels.

Introduction of exotic aquatic species will have some impacts like genetic contamination, disease introduction and

ecological interaction with possible threat to native germ plasm. In the wake of trade liberalization under World Trade Organization (WTO) Agreement, India is required to equip itself and to minimize the ecological and disease risk associated with the likely increase in species introductions. Outbreak of exotic disease in many cases can be traced to movement of exotic fish into new areas: examples are Koi herpes virus disease and Epizootic ulcerative syndrome. With expected increase in the international trade in ornamental fish and other products in coming years there is likelihood of increased negative impact on native fauna. In this contest it is absolutely necessary to make guidelines and regulations for introduction of exotics aquatic ornamental animals for effective control and management of species introduction (Ref 4,5).

#### IV. METHODOLOGY

- a) Data Sources: For this study secondary data were used. Relevant secondary data were collected from FAO database, MPEDA publication and various research bulletins.
- b) Data Type: Secondary Data Collected from various annual reports, research papers and conferences published time by time by Department of Animal Husbandry Dairying & Fisheries (DADF).
- c) Data Analysis: Statistical methods are used for data Analysis, where graph (Line Graph, Pi Graph) are used to explain actual statistical tables in simple form.

#### V. FINDING AND DISCUSSION

- 1) Even though there is tremendous scope in international fish market relatively India Fish Export ( Marine / Freshwater ) the average growth is sleeping approx. 5% within last three years. (Reference: Table 1 )
- 2) Contribution of Live Fish Export is less than 0.5% in total Indian Export ( Reference : Graph 1 )
- 3) The world trade of ornamental fishes in 2006-07 India was contributing only 0.15 per cent of the global trade, and growth in Live Fish Export almost double but out of contribution of ornamental fish is very poor. ( Graph 2 )

#### VI. CONCLUSION:

India needs to improve their Export contribution and earn foreign exchange, to improve valuation global trade contribution. In spite of having enormous potential in India, India is not up to the mark in this respect. But proper utilization of resources will lead India to a higher position.

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FIGURES AND TABLES

Tables : 1 : Trade In Export of Marin Products ( 1980-81 to 2013-14 )  
Source: Handbook on Fisheries Statistics 2014

Trade In Export of Marin Products ( 1980-81 to 2013-14 )					Annual Growth Rate ( % )	
Year	Qty. ( Tonnes )	Value ( INR, Cores )	Unit Value ( INR / Tonnes)	Unit Value Index	Qty.	Value
1980-81	75591	234.84	31067.19	1246.81	-12.51	-5.62
1981-82	70105	286.01	40797.38	1637.31	-7.26	21.79
1982-83	78175	361.36	46224.5	1855.11	11.51	26.35
1983-84	92187	373.02	40463.41	1623.9	17.92	3.23
1984-85	86187	384.29	44587.93	1789.43	-6.51	3.02
1985-86	83651	398	47578.63	1909.46	-2.94	3.57
1986-87	85843	460.67	53664.25	2153.69	2.62	15.75
1987-88	97179	531.2	54662.02	2193.73	13.21	15.31
1988-89	99777	597.85	59918.62	2404.69	2.67	12.55
1989-90	110843	634.99	57287.33	2299.09	11.09	6.21
1990-91	137667	856	62179.03	2495.41	24.2	34.81
1991-92	169875	1311.6	77209.71	3098.63	23.4	53.22
1992-93	206673	1713.7	82918.43	3327.74	21.66	30.66
1993-94	242505	2461	101482.44	4072.76	17.34	43.61
1994-95	307337	3575.3	116331.58	4668.7	26.73	45.28
1995-96	296277	3450.1	116448.46	4673.39	-3.6	-3.5
1996-97	378198	4077.6	107816.54	4326.96	27.65	18.19
1997-98	385818	4649.7	120515.37	4836.6	2.01	14.03
1998-99	302934	4626.87	152735.25	6129.67	-21.48	-0.49
1999-00	343031	5116.67	149160.57	5986.21	13.24	10.59
2000-01	440473	6443.89	146294.78	5871.2	28.41	25.94
2001-02	424470	5957.05	140340.9	5632.25	-3.63	-7.56
2002-03	467297	6881.31	147257.74	5909.84	10.09	15.52
2003-04	412017	6091.95	147856.76	5933.88	-11.83	-11.47
2004-05	461329	6646.55	144073.97	5782.07	11.97	9.1
2005-06	512163	7245.73	141473.12	5677.69	11.02	9.01
2006-07	612643	8363.52	136515.39	5478.72	19.62	15.43
2007-08	541701	7620.93	140685.18	5646.07	-11.58	-8.88
2008-09	602834	8607.95	142791.38	5730.6	11.29	12.95
2009-10	678436	10048.53	148113.16	5944.17	12.54	16.74
2010-11	813091	12901.46	158671.78	6367.92	19.85	28.39
2011-12	862021	16597.23	192538.58	7727.08	6.02	28.65
2012-13	928215	18856.26	203145.39	8152.76	7.68	13.61
2013-14	983756	30213.26	307121.48	12325.6	5.98	60.23

Tables : 2 : EXPORT OF MARINE PRODUCTS BY CATEGORY ( Live Items ) – INDIA

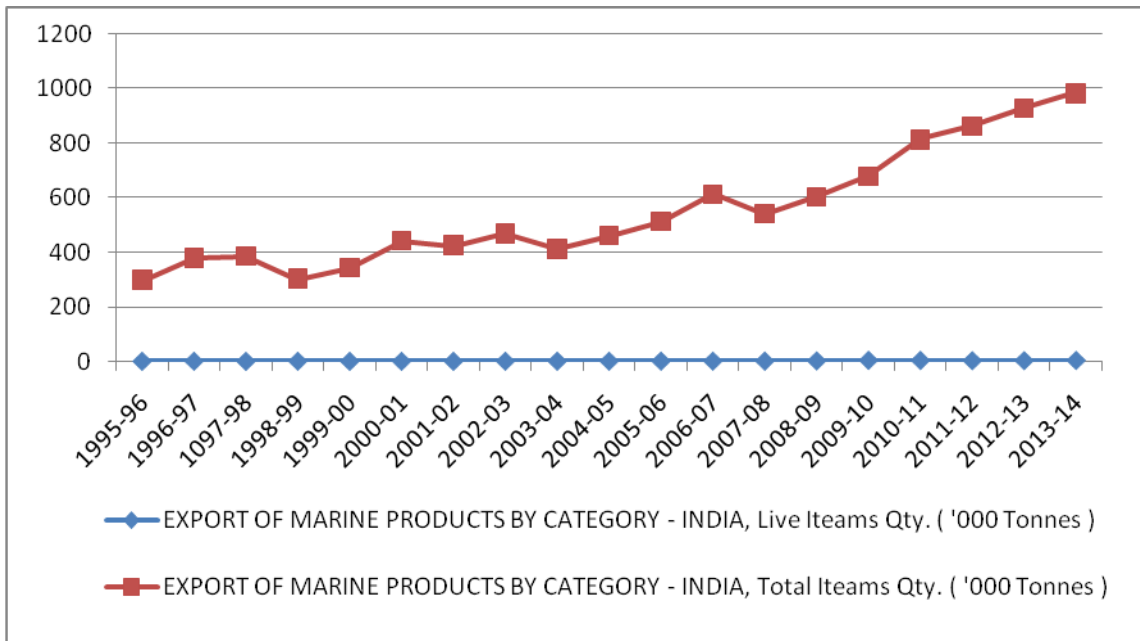
Source: Handbook on Fisheries Statistics 2014

EXPORT OF MARINE PRODUCTS BY CATEGORY ( Live Items ) - INDIA,		
Year	Live Items	Total Items
	Qty. ( '000 Tonnes )	Qty. ( '000 Tonnes )
1995-96	1.756	296.277
1996-97	2.03	378.198
1997-98	1.7	385.818
1998-99	2.148	302.934
1999-00	1.678	343.031
2000-01	1.844	440.473
2001-02	1.628	424.47
2002-03	2.115	467.297
2003-04	2.341	412.017
2004-05	2.262	461.329
2005-06	2.568	512.163
2006-07	2.478	612.643
2007-08	2.498	541.701
2008-09	3.434	602.834
2009-10	5.492	678.436
2010-11	5.208	813.091
2011-12	4.199	862.023
2012-13	4.373	928.214
2013-14	5.08	983.756

Table 3 : Global Ornamental Fishes Market Shares Year 2006-07

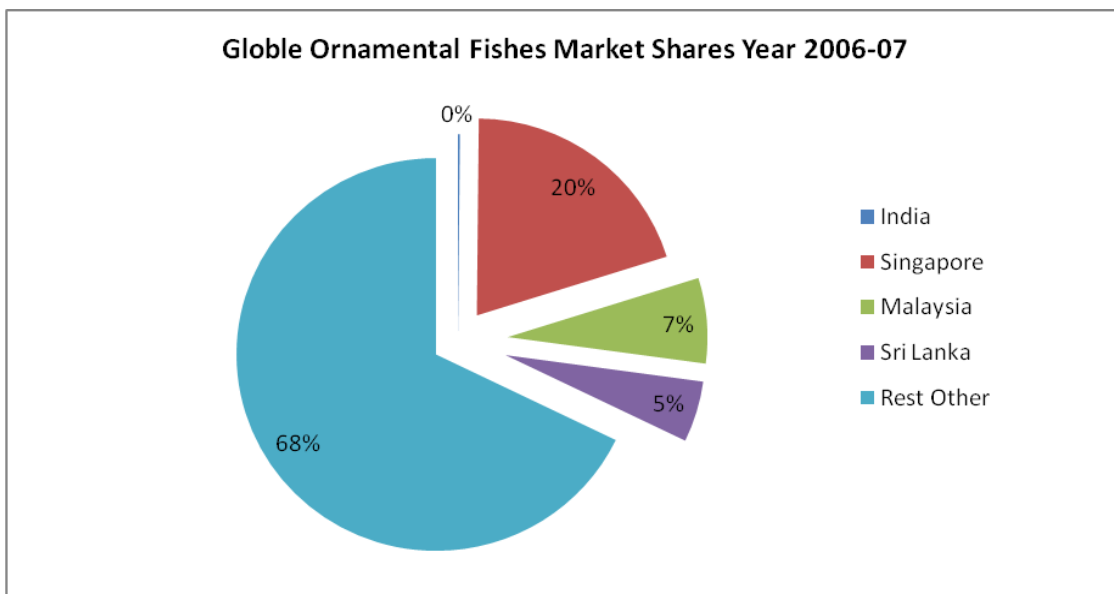
Source: Handbook on Fisheries Statistics 2014

Global Ornamental Fishes Market Shares Year 2006-07	
	Value ( INR ) Crores
Total Global Trade	3,950
India	6
Singapore	790
Malaysia	276.5
Sri Lanka	197.5
Rest Other	2,680



Graph 1 :  
 Contribut

ion of Live Fish in Total Marin Product Export



Graph 2 : Global Ornamental Fishes Market Shares Year 2006-07