Research Paper

Volume : 4 | Issue : 4 | April 2015 • ISSN No 2277 - 8179

Export Performance of Indian Ornamental Fish-Trend : An Analysis

Fisheries

KEYWORDS :

Madhumita Mukherjee — Executive Director, NFDB, Hyderabad & Addl. Director, Directorate of Fisheries (HQ), West Bengal

Ashis Bhuina — Assistant Fishery Officer, Directorate of Fisheries (HQ), West Bengal

ABSTRACT

At present, ornamental fish farming is the fastest growing aquaculture sector in the world with a global trade of US $ 9.0 billion per annum and a growth rate of over 8 per cent. In ornamental fish trade, freshwater ornamental fish contribute 85 per cent of the total and the rest are from marine species. More than 5,000 species of freshwater ornamental fish are traded each year, out of which 700 to 800 are most common. Approximately, 1.0 billion ornamental fish are exported annually involving more than 100 countries. The entire value of the industry inclusive of retail sales, associated materials, wages and non-exported products, was estimated to be US $ 15 billion. Though Asian countries contribute 90 per cent of the ornamental fish trade around the globe, India's share to the global trade is less than 0.01 per cent, till recently. But the ornamental fish export in India is growing at the rate of 10 per cent per annum during the last few years. At the same time, the domestic ornamental fish market in the country is also growing at 20 per cent rate per year. India is very rich in terms of ornamental fish genetic resources with more than 200 varieties of indigenous ornamental fish available in the North Eastern States and Western Ghats of the country. In addition, more than 100 species of exotic ornamental fish varieties have already been domesticated to the Indian condition and are traded to the different parts of the world.

The demand for exotic fishes is high in the international ornamental fish markets such as USA, Europe, and UK. It is noted that in the domestic market for ornamental fishes, the supply from the breeding sector does not meet the domestic demand, which points at the fact that there remains no surplus stock for export. The domestic market for ornamental fishes in India is basically a seller's market and anything bred is devoured by the market without even considering the quality of it. For an industry to improve the production level has to increase and the quality of the product also has to be enhanced.

Introduction:

Ornamental Fish had occupied a significant position in global trade portfolio due its popularity amongst people with aquarium hobby. Terrestrial people want to enjoy behavior of aquatic life in aquarium. Globally there is a persistent demand for live fish for decorative, research purposes from hobbiers, educational institutes etc. Though India's share of global trade is negligible at 0.01 per centum, yet it is stated to grow at 10.5 per centum per anum. On the other side producers and exporters face a different situation comprising of idle stock, higher lead time and inventory carrying cost. Real time export data of ornamental fish (ITC code 03011000) reveals a alarming situation of declining trend during last couple of years. Marine Product Export Development Authority (MPEDA) is assigned with the responsibility of export promotion of ornamental fish in global market and adopted few steps in this respect accordingly. Initiatives of MPEDA, has not been able to reverse the current trend of growth trajectory.

I. Ornamental Fish Global Trade Item:

I.I. Global Trade Volume:

- Annual international exports in ornamental fish are around US$250 million, with imports valued at US$300million (FAO, 2006).
- The total value of whole sale ornamental trade is estimated at close to US$1 billion, and retail trade about US$6 billion.
- The entire industry, including accessories and fish feed, is estimated to be worth more than US$14 Billion.
- Since 1985 the value of international trade in exports of ornamentals has increased at an average growth rate of approximately14%peryear**.**

I.II.Global Trade Scenario:

In the year 1976, 28 countries reported exports of ornamental fish. Since that year the number of exporting countries (including re-exporting) has gradually grown to 146 in 2004. And the number is still increasing. Nevertheless, there are only a few countries which are responsible for the bulk of exports. The Top 10 exporting countries have a share of no less than 69% of the total worldwide exports; the top 25 account for 93% of total exports. According to the FAO data, the worldwide export volume in US$ during this period grew from US$ 21 million in 1976 to US$ 251 million in 2004 and well over US$ 300 million in 2006. The total retail turnover in the ornamental aquatic industry consists of much more than the live fish alone. *The fish are estimated to represent approximately 15% of the total turnover in aquarium-related products*. The rest consists of fish food, aquariums, plants, lighting, filters, etc. This leads to an estimate of some US$ 15 billion and this is a substantial amount.

I.III.Number of importing countries:

The number of countries which are importing ornamental fish has gradually increased from 32 in 1976 to 132 in 2001 and since then has decreased slightly to 120 in 2004. So we currently have more countries exporting ornamental fish than those importing ornamental fish. Nevertheless, in fact there are only a very few countries which are really heavily involved in this industry. The top 10 countries import more than 77% of the total import value, and the top 25 import over 95% of the total. The top 25 are mainly represented by wealthy western countries.

Although there are a large number of importing countries, the distribution of these countries is quite uniform. With 51% of the total import value, Europe is by far the largest importer in the world. Within Europe, the United Kingdom accounts for 19% of the total imports, with Germany coming in a close second (18%). France, the Netherlands, Belgium, Spain and Italy also have considerable imports. The countries in Eastern Europe have relatively low import figures.

The second largest import area is the North American continent, the USA being by far the largest player with 87% of the total imports. Many exports from South America find their way into the rest of the world through the airports of Miami and Los Angeles.On the other hand, the majority of the huge ornamental fish production industry in Florida is distributed (mostly by air freight) within the USA and is not exported.

Japan is the major player with 45% of the total imports in the third major importing Area, Asia. In fact, only Singapore, as an import-export hub, plays an important role with 23% of the imports, putting it far behind Japan, and China with 17%, again

lagging far behind Singapore, although it has enormous potential. After Japan, only import-export centre Singapore with 23% and China with 17% are significant importers. China has a huge potential for growth though. Singapore's export is more than double that of the other countries in the top 5 from 2004. In total, the market share of Singapore exports in 2004 was about 19.8 % of the world volume, which was slightly higher than the year before with 19.6%. This was the lowest market share in the period covered by the FAO statistics. In fact, this was less than half that of the top years of 1984/1985. Since the industry is growing on a global scale, the decline in market share is of course completely logical. It may be seen as a tremendous achievement that Singapore is still by far the largest exporter.

I.IV.Rapid growers and Emerging markets:
The Czech Republic and Spain are not only in the top 5 of the export countries, they also show the largest export growth. Israel was a very rapid growth country until the outbreaks of Koi Herpes Virus in 1998, which resulted in a serious drop in exports.

Emerging markets
The largest import countries in the world are of course not the countries with the largest growth of imports. As long as the total imports are low, the entrance in the market by one or two major importers can result in high growth figures, such as the import figures for Greece, Poland, Ireland, Indonesia and Iran as shown in this overview. In this list, Indonesia is the unexpected country, since it is known primarily as being an exporting country.

I.V.Declining markets.
In fact, it is only in Japan that imports have really dropped over the last decade, as we have seen in the figure above. Almost all of the other import countries have seen a steady growth or at least a stable situation.

Market share of the USA
The total market share for imports of ornamental fish into the USA dropped from its peak in the first year of the available statistics at almost 47% to only 17% in 2002 and recovered to 22% in the last year of the available statistics. Since the aquarium hobby has also grown strongly outside of the USA, for example, in Europe and Asia,

I.VI. Determining Factors of Trade:
The spring and summer seasons are very slow with hardly any sales to retailers or over-the counter sales to aquarium owners. Transports are by air-freight to the main Swedish airports or Copenhagen airport in the case of importers in the south of Sweden.

Packaging must be done right for fish to survive and arrive in good condition. The water, the plastic bags and the polystyrene boxes must all be just right for the transport to be successful.

Most of the weight of a fish transport is water, perhaps as much as 90%. In order to be able to pack more fish per litre of water and thus reduce the freight-cost per fish, exporters try to slow down the metabolism and oxygen consumption of the fish. This can be done by chemicals or by cooling the water and is practised with varying success. It is important that the preparation of the fish and the transport is professionally done, or the importer will receive dead fish.

I.VII.Customs Tariffs and Import Regulations.
Sweden joined the European Union on 1 January 1995. From that date licensing of live fish imports is not necessary. The importer must fill in a declaration to the Customs Authorities stating among other things, what species of fish the shipment contains, that the fish are not of endangered species according to the Washington Convention of species which could multiply in the wild in Swedish waters. Customs at the first entry point into the European Union make spot checks of aquarium fish.

Fresh water fish are duty-free while salt water fish have a duty of 7.5%. Most fish imported to Sweden are fresh water fish as salt water fish are more expensive and more difficult to keep.

I.VIII.Aquarium Plants
The combined nomenclature does not list aquarium plants under its own CN number, which makes it impossible to calculate the size of the market. Imports are estimated to be worth around SEK 4 million. There is hardly any domestic production of aquarium plants. Imports come mainly from three countries; Singapore, Denmark and the Netherlands.

Most Fish importers/ wholesalers also trade with aquarium plants, but that is not the case for all retailers. Generally speaking Swedish aquarium- owners do not fill their aquariums with much decoration but keep them relatively bare.

I.IX.Market Prospects and Business Opportunities
This is small market and there are many exporters competing for the business of a handful of importers. Trade sources do not expect an increase in the Swedish market for the foreseeable future. On the contrary, there are many new hobbies and interests competing for the time of young people, such as computer games and Internet. On the other hand, the importers are always looking for interesting new exporters of quality fish and for better prices. So, although market prospects are not particularly good, there are always opportunities, for the serious exporter who can offer quality at competitive prices, as the success of the Czech aquarium fish exporters proves.

The supply chain of exotic ornamental fish for domestic marketing includes breeders at the first step followed by wholesalers, retailers and consumer/hobbyist where as the chain for export marketing includes breeders, suppliers, exporters and consumers/hobbyist abroad. The trend towards traceability, certification and improved farm management is driving responsibilities down the market chain to the Breeders/breeding sector. Tomey (1997) pointed out that, with regards to recent developments in European legislation, tracking i.e. following a shipment from point of export to import and tracing i.e. the ability to follow the consignment all the way back to its original source, for example, a particular breeder or farm for health and welfare for all items are becoming a basic issue. Ornamental fish breeding/ production has evolved from a pursuit into a sustainable livelihood alternative, comparable to agriculture or other activities of fisheries in India. Of late, this sector has been accorded wide recognition as a potent instrument for providing employment opportunities, slowing urban migrations, alleviating poverty, contributing to national income growth, and promoting equitable distribution of income and enhancing foreign exchange. In spite of the fact that India has conducive conditions for ornamental fish breeding, the production from the breeding sector is to the level of 100 Million fish per year. The ornamental fish export was to the tune of 535 Lakh (US $ 1.27 million) in 2008 (MPEDA, 2008).

II.India in Global Trade Landscape:
India share in global trade is insignificant with an amount of 0.01 per centum and remain market follower. Merchandise from India comprises of live fish both captive bred as wells as wild collection. It does not include marine species, corals, feed and other ancillaries. Predominant species of merchandise comprises of Tetraodn travancorius (15.51%) followed by Dario dario (4.81%).

Volume : 4 | Issue : 4 | April 2015 • ISSN No 2277 - 8179

Table 1: Indigenous Species with Major Composition in Exports (2005-2010)

SPECIES	COMPOSITION
Tetraodon fervacoricus	15.51%
Danio danio	4.81%
Puntius denisoni	3.76%
Botia striata	3.69%
Carinotetraodon travancoricus	1.59%
Puntius fasciatus	0.54%
Channa bleheri	0.49%
Chela dadiburjori	0.30%
Mesonoemacheilus triangularis	0.19%
Puntius terio	0.13%
Etroplus maculatus	0.12%
Puntius filamentosa	0.10%
Puntius jerdoni	0.09%
Pseudosphromenus dayi	0.09%
Puntius narayani	0.07%
Puntius sophore	0.07%
Pseudosphromenus dayi	0.07%
puntius conchonius	0.05%
Barilius bakeri	0.03%
Badis assamensis	0.02%

II.I.Declining Trend of Export:

Time series data of value of Indian ornamental fish export during last 17 years (1996-1997 to 2012-2013) (Table 2) is taken analysis. Since, rupee denotes here is at current price, it is nominal value of currency. Nominal value of rupee is always subjected to inflationary pressure. So any simple price rise on account of inflation may contribute to sales growth. Here the real value of rupee is taken into consideration by multiplication of nominal value with GDP deflator of corresponding year. Then it is fitted with 2nd order polynomial equation to obtain a trend line.

Simple Average Growth Rate for 17 Years (1996-97 to 2012-13) period = 31.52%

Mean Annualised Growth Rate (Y2Y) = 29.05 %

Compounded Growth Rate = 11.5 %

$P_2 = P_1 (1 + r/100)^{17}$

$551.21 = 86.69 (1 + r/100)^{17}$

Log 86.69 = 17 log (1 + r/100)

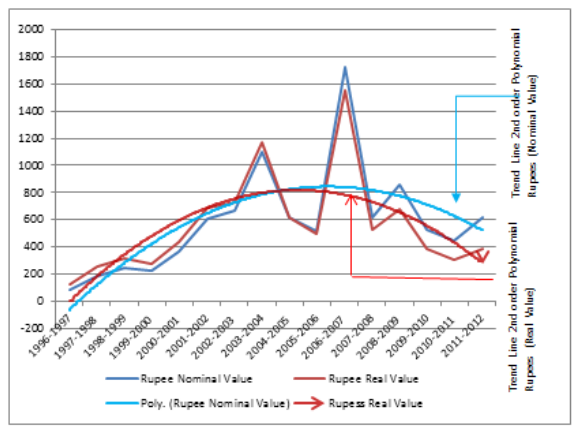
or r = 11.5

Table2:Value of Indian Exports in Rupee- Real and Nominal Terms.

					Rs in '00,000'	
Year	Values in Rs. Lacs (Nominal value)	GDP at Constant (2004-05) prices	GDP at current prices	GDP Deflator	Real value= Nominal value x GDP deflator [Constant price (2004-05=100)]	Annual Growth Rate (Y2Y) %
1996-1997	86.69	1876319	1301788	1.441339892	124.9497552	
1997-1998	187.21	1957032	1447613	1.351902644	253.0896939	115.953
1998-1999	248.47	2087828	1668739	1.251141024	310.8710103	32.723
1999-2000	226.1	2246276	1847273	1.215995596	274.9366042	-9.003
2000-2001	370.01	2342774	1991982	1.176101848	435.1694447	63.649
2001-2002	606.6	2472052	2167745	1.140379569	691.7542466	63.942
2002-2003	662.43	2570690	2338200	1.099431313	728.2962847	9.204
2003-2004	1102.79	2777813	2622216	1.059337857	1168.227196	66.476
2004-2005	619.28	2971464	2971464	1	619.28	-43.844
2005-2006	515.83	3253073	3390503	0.95946624	494.9214706	-16.705
2006-2007	1724.96	3564364	3953276	0.901622832	1555.263321	234.405
2007-2008	620.21	3896636	4582086	0.850406731	527.4307587	-64.045
2008-2009	861.71	4158676	5303566	0.784128254	675.6911578	38.938
2009-2010	523.95	4516071	6108903	0.739260551	387.3355659	-39.196
2010-2011	448.68	4937006	7266967	0.679376417	304.8226106	-14.366
2011-2012	616.25	5243582	8353495	0.627711156	386.8269997	37.347
2012-2013	551.21	1876319	1301788	1.441339892		-10.554

(Source : Export Import Data Bank; Department of Commerce)

Value of Indian Exports in Rupee- Real and Nominal Terms And Trendlines on 2nd Order Polynomial



It is evident from table 2 that though value of export grew from Rs. 86.69 lacs in 1996-97 to Rs.551.21 lacs in 2012-2013 showing a modest growth rate 31.52 % on simple terms while annual compounded growth rate becomes 11.5%. Trend line of sales trajectory on second order polynomial shows that there is a clear declining trend of export value on both nominal and real terms. In fact decline commenced from the peak year in 2006-2007. The export had declined at the rate of -15.32% on an average annually during corresponding period.

II.II. Declining Value of Export in US$:

External trade volume depends upon rupee convertibility, income parity and purchase power parity. So analysis depending upon domestic currency may not depict true scenario, because of currency conversion factor. So time series data in terms of US$ is taken into consideration. This also depicts declining trend on 2nd order polynomial commencing from 2006-2007.

Table3:Value of Indian Exports in US$.

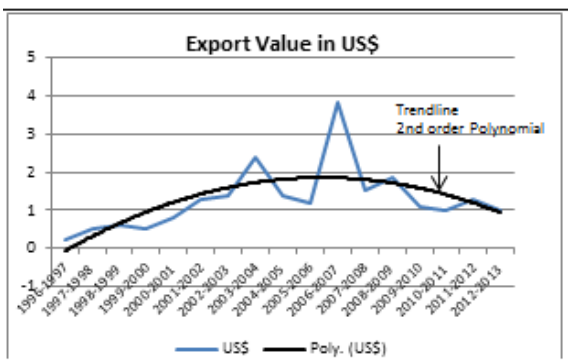
Year	Values in US$ Million	

1996-1997	0.24	
1997-1998	0.5	
1998-1999	0.59	
1999-2000	0.52	
2000-2001	0.81	
2001-2002	1.27	
2002-2003	1.37	
2003-2004	2.4	
2004-2005	1.38	
2005-2006	1.16	
2006-2007	3.85	
2007-2008	1.54	
2008-2009	1.86	
2009-2010	1.1	
2010-2011	0.98	
2011-2012	1.29	
2012-2013	1.01	

Six Sigma Analysis of Export Volume in US$.

Six Sigma Analysis

Mean(= 1.28647
Standard Deviation (σ) = 0.8461
+ σ = 2.1326
+ 2σ = 2.9787
+ 3σ = 3.8248
- σ = 0.4403
- 2σ = -0.4058
- 3σ = -1.2519



Six sigma analyses of the time series data reveals, predominance of data in (± σ) region indicates stagnation nature of data.

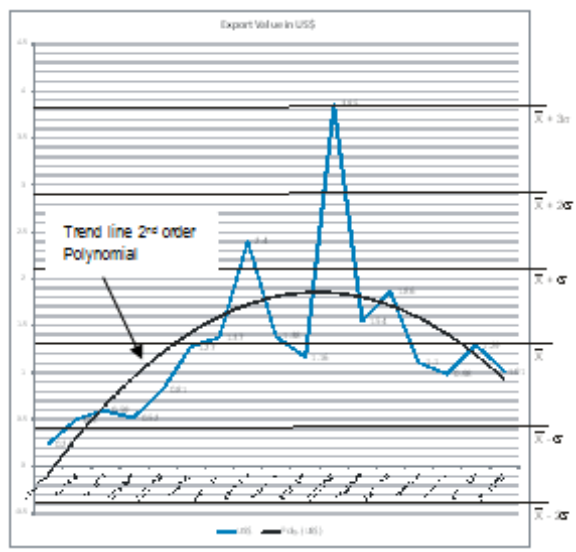
II.III.Stagnant Market Base:

India Exported to 78 countries during last 17 years, 1996 – 2012-2013. It is evident from the frequency distribution of table containing number of exporting years against frequency of export to a particular country, that distribution is not standard normal distribution, rather skewed. It had exported 17 years to 11 countries, 16 years to 1 country (THAILAND), 15 years to 7 countries. 2 years to 25 countries. First quartile Q_1 with (1-4) years group have total frequency of 39, while second quartile (Q_2), third quartile (Q_3) and fourth quartile (Q_4) have corresponding total frequency of 10,9,20.

This is an indicator of predominance of floating customer. Incidence of export to 25 countries only for twice during 17 years is an indicator of lack of CRM (Customer Relationship Management).

Table 4 : Frequency Distribution of Exporting Years and Exporting Countries

N (Exporting Years)	Number of Countries [Frequency(f)]		Frequency and Number of Buyer Countries
1	2		
2	25		Q_1
3	4		
4	8	39	
5	0		
6	4		Q_2
7	2		
8	3		
9	1	10	
10	2		
11	4		Q_3
12	2		
13	1	9	
14	1		
15	7		Q_4
16	1		
17	11	20	



II.IV.Plateau in number of Buyer Countries:

Export market base that is number of countries of export remain stagnant since 2005-2006, since change in number of buyer countries are not substantial remaining with in ± SEx1.96 (26 and 30). Since, expansion in export Market depends upon numbers of countries of export, remains within acceptable limits of change, it may be inferred that market base is in plateau after initial rise.

Table 5 : Frequency Distribution of Years and Buyer Countries:

Years	No. of Buyer Countries	Deviation	$30 \leq X_1 \geq 26$	Year wise Number of Buyer Countries

Volume : 4 | Issue : 4 | April 2015 • ISSN No 2277 - 8179

1996-1997	20	-8.471		
1997-1998	23	-5.471		
1998-1999	24	-4.471		
1999-2000	26	-2.471	Yes	
2000-2001	22	-6.471		
2001-2002	25	-3.471		
2002-2003	28	-0.471	Yes	
2003-2004	32	3.529		
2004-2005	40	11.529		
2005-2006	27	-1.471	Yes	
2006-2007	33	4.529		
2007-2008	28	-0.471	Yes	
2008-2009	30	1.529	Yes	
2009-2010	30	1.529	Yes	
2010-2011	32	3.529		
2011-2012	30	1.529	Yes	
2012-2013	34	5.529		
Mean ( )			28.4705	Since values of year 1999-2000, 2002-03, 2005-06,2007-08, 2008-09, 2009-10, 2011-12 remain within $30 \leq X \geq 26$, change in values are likely to be data fluctuation, rather than significant change.
SD (σ)			5.00147	
Standard Error (SE)		=	1.21303	
+ SEx1.96		30.848	30	
- SEx1.96		26.093	26	

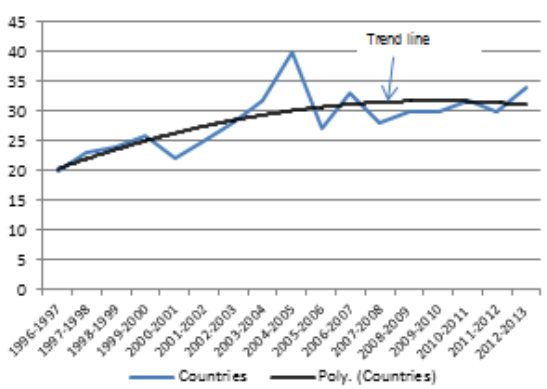
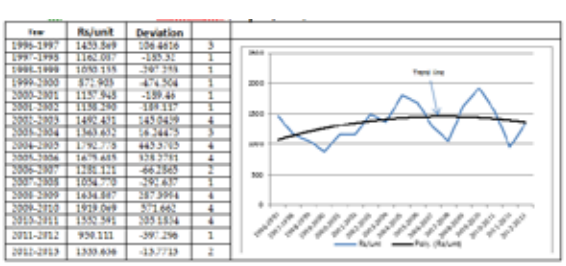


Table 6 : Year wise Price Realisation (Rupees/unit)



III.MPEDA-Steps taken to increase production and exports: For Increasing Production: Provides financial assistance for establishment of ornamental fish breeding units to boost up export of ornamental fish.

MPEDA, is assigned with the responsibility of export promotion and development of ornamental fish in global market as evident from the outcome budget of Ministry of commerce, Government of India (Table 7). Though positive outcome is reported against deliverables of targets, yet locus of declining trend line do not reverse. The steps adopted by MPEDA, are general and technical in nature, concerned with breeding and subsidy og FOB only. Export development strategies, as per principles of marketing management (international marketing), is not pursued, leading to low global market capitalization of Indian merchandise.

Table 7 :Scheme wise performance of MPEDA 2009- 10

Name of Scheme	Physical Performance/ Quantifiable Deliverables		Outcome 01.03.2009 To 30.11.2009
	Target 2009-10	Achievement 01.03.2009 to 30.11.2009	
MARKET PROMOTION			
Publicity	25 Nos. of various Publicity literature, brochures to be produced. Purchase of machinery/ equipments will be undertaken to upgrade the photographic studio to meet the expected standards. 60 External and 25 internal advertisements would be released in magazines/ journals to promote logo for Indian sea foods abroad. 4 sales team delegation	19 Nos. of various publicity literatures, brochures were brought out. 94 Nos. advertisements have been released in various national/ international leading fishery magazines/ journals.	Disseminated information among the exporters as well as public about the schemes of MPEDA and also various products exported from India. Publicity of Indian Marine products in overseas markets.
Participation in International Fairs.	10 International + 7 Domestic Fairs. For increased acceptance of Indian seafoods in overseas markets and strengthen our existing markets and penetration into new markets, we are participating in International fairs.	MPEDA participated in 6 international fairs to get a wide acceptance to our products on overseas markets and to enable to firm up our trade relations. MPEDA also participated in 7 domestic fairs.	Increased acceptance of Indian seafoods in Overseas markets. Strengthen our existing markets and penetration into new markets. Increase in export of value added products and hence a higher export turnover.

Sea freight Assistance	Import of raw material for processing (200 containers). Promote export of specific value added products (2500 containers).		India evolving into a seafood processing hub, increased exports of value added products and increase employment opportunities.
Market Assistance 1. Developmental assistance for export of ornamental/ aquarium fishes 2.Insurance scheme for workers employed in the fish processing/ pre-processing units	15 (ornamental /aquarium fish) 10,000 workers for insurance scheme	6 3891	Improvement in social security , morale of workers. Exports of ornamental fish will increase.
Promotion of Ornamental Fish breeding for exports	Setting up of 56 nos. ornamental fish breeding units and marketing societies.	63 units	Increase in production and export of ornamental fish

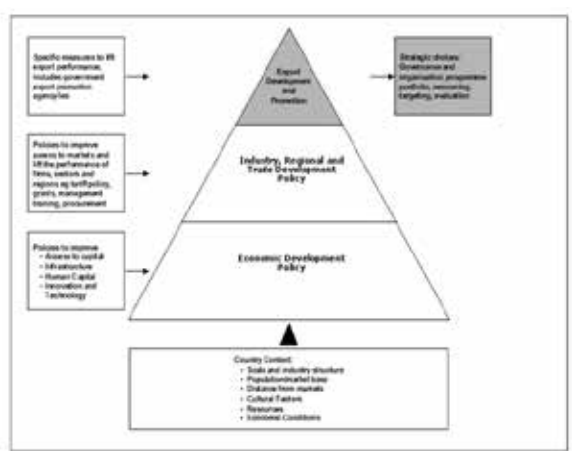
(Source : GOVERNMENT OF INDIA , OUTCOME BUDGET ,2010-2011 ,DEPARTMENT OF COMMERCE , MINISTRY OF COMMERCE & INDUSTRY)

Table8:OUTLAYS, QUANTIFIABLE DELIVERABLES/PHYSICAL OUTPUTS & OUTCOMES MPEDA 2011-2012

Sl. No.	Name of scheme	Objective/outcome	Quantifiable/ deliverables/ physical outputs
1	2	3	5
	Market Assistance	Development of selected items of export and for giving social and financial security for workers engaged in processing, pre-processing centres. The share of Indian exports in ornamental fish is negligible, the greatest impediments being high airfreight from India to international destinations compared with that of competing countries. To offset this disadvantage, airfreight subsidy is extended. Insurance scheme for processing/ pre-processing workers is aimed to provide a social financial security for the workers employed in fish processing plant. Market Survey to identify the strength and weakness of Indian seafood products in sophisticated markets compared to products from competing countries, to identify marketing opportunities, to explore possibilities for setting up joint ventures with established companies in these markets.	Social security / financial secutiry and improvement in morale of processing/ pre-processing workers, especially women (20000 beneficiaries). Market access for Indian Ornamental fish and other products (17 neneficiaries). Identification of new marketing opportunities.
	Promotion of Ornamental Fish breeding for exports	To promote production of ornamental fish and provide infrastructure facilities for marketing, create employment generation in rural/semi urban areas.	Setting up of 56 nos. ornamental fish breeding units and market societies.

(Source : GOVERNMENT OF INDIA , OUTCOME BUDGET ,2011-2012 ,DEPARTMENT OF COMMERCE , MINISTRY OF COMMERCE & INDUSTRY)

IV. Export Promotion and Development Process:



(Source**:** Export Development and Promotion, Lessons from Four Benchmark Countries, the Boston Consulting Group, 2004)

Volume : 4 | Issue : 4 | April 2015 • ISSN No 2277 - 8179

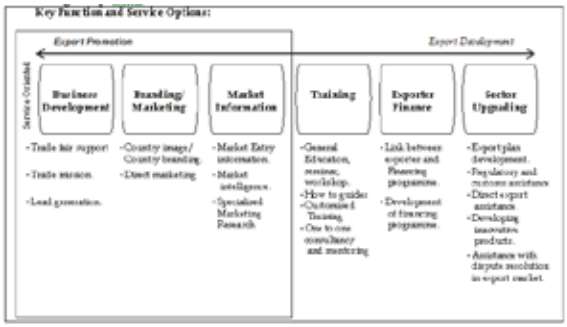


Table 9: Interface Management of MPEDA on Components and Criteria of Export Promotion and Development

Sl	Components	Criteria	Interface
I	BUSINESS DEVELOPMENT FUNCTION		
	Trade Fairs:		Yes
	Trade Missions:	criteria a) export readiness, b) export performance, c) export competence of the company executives attending the mission, d) export production capacity f) extent of export marketing planning.	No
		Organize B2B Meetings	No
		Develop a Handbook:	Yes
		Conduct Seminar Series:	No
	Lead Generation:	a). identifying opportunities in the specific markets, b) generating customized contact list of potential interested buyers c) developing business meeting agendas for visiting companies.	No
II	MARKET INFORMATION FUNCTION		
	Market Entry Studies:	a) market potential, economic climate, market trends, and industries and business practices;	No
		b) market access conditions, specific market trends for selected export products and regulatory framework;	No
		c) transportation and distribution methods, relating to distribution channels and preferred modes of transport and shipping methods and costs.	Partly
		Integrate market information into CRM application:	No
		Develop and Disseminate Fact Sheets:	No
	Market Intelligence Reports	a) monthly bulletins, with latest updates on various topics like training, regulations b) monthly and bi-annually statistical updates, with imports and export data for HS code c) monthly and quarterly competitive round up, with statistical data about exports to key markets; d) quarterly competitive round up analyses, including qualitative inputs in addition to the statistical data. e) Alerts to inform of competition profiles, anticipated trends and market overviews, as presented in strategic publications.	No
	Specialized Reports	a) Import regulations studies, covering topics such as sanitary issues, and packaging regulations;	No
		b) Tariff studies, such as import tariffs and possible exemptions; and	No
		c) rules of origins studies.	

Sl	Components	Criteria	Interface
	Specialized Reports		
		a) Import regulations studies, covering topics such as sanitary issues, and packaging regulations;	No
		b) Tariff studies, such as import tariffs and possible exemptions; and	No
		c) rules of origins studies.	
III.	OTHER FUNCTIONS		
		Branding and Marketing	No
		Training:	Yes (Technology)
		Export Financing	No
		Sector Upgrading	No

V. Analysis of Export Promotion and Development Process:

1). 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. Existing export development initiatives of MPEDA is technology research and development kind concerned with breeding only.

2). 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.

3). 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.

4). Export promotion and trade development interface table

indicates lack of component and sub component wise intervention.

No of Years		Countries	No of Years		Countries
All 17 years		FRANCE	15 years out of 17 years	1	BAHARAIN IS
		GERMANY		2	BELGIUM
		HONG KONG		3	TAIWAN
		JAPAN		4	CZECH REPUBLIC
		MALAYSIA		5	ITALY
		NEPAL		6	SRI LANKA DSR
		NETHERLAND		7	SWEDEN
		SINGAPORE			
		U ARAB EMTS			
		U K			
	11.	U S A			
16 years out of 17 years	1	THAILAND	14 years out of 17 years	1	BANGLADESH PR
13 years out of 17 years	1	KUWAIT	12 years out of 17 years	1	CHINA P RP
				2	DENMARK

Conclusion:

Ornamental fish export from India is in a stress condition at present and constraints of export need to be addressed on priority basis. Consistent decline in export in spite of persistent emphasis on technical aspects is an indicator of need for evaluation of existing plan-process-procedures. If popular marketing strategies like product diversification, market differentiation, market segmentation is strategically conceptualized then the situation will definitely alter the prospect in right perspective. Indian product is supposed to be losing export market solely because of loss of genetic purity, is an assumption based on technology gap between market leader and follower. From marketing point of view this cannot be held as a factor of constraints in a situation when 85% of global trade from India is on wild catch. Reasons of this incidence need to be analyzed with adequate market intelligence and market research. Brand positioning of Indian product with point of parity (POP) and point of difference (POD) is not resorted, if issues are properly addressed will boost the chances of India emerging as a major player in Ornamental fish export Industry.