SUPPLY CHAIN PROBLEMS FACED BY SEA FOOD EXPORTERS IN TAMILNADU

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Abstract - **Seafood is the world's major source of wild protein. Seafood is a highly perishable food that should be handled with care. India is the second largest seafood producing country in the world. Many problems are prevailing in the sea food supply chain. More market participants, uncertainty in demand and supply, inadequate market knowledge, lack of infrastructure, price fluctuations, changing quality standards by the trading countries, perishable nature of the product, high cost on storage and transportation are some of the problems. The study is done with the objective of analysing the supply chain problems prevailing among the sea food exporters of Tamilnadu. Multistage sampling method is used and the respondents are the exporting companies.**

Key words: Supply Chain, Exporters, Sea food

I.INTRODUCTION:

Marine products export in India started early in 1938-39. The products like dried fishes, salted or smoke-cured fishes, aquatic animal oils, aquatic animals and a number of plant products are exported. To East Asian Countries like Singapore, Myanmar and Sri Lanka, India is the main exporter of dried fishes. Sri Lanks is the only country which exported Indian dried fishes by 1959. India exported to 22 countries in 1962 with a quantity of 3067 tonnes of dried prawns at a value of Rs. 89.43 lakh. Simultaneously it increased by 1963 to Rs. 93.24 lakh values (2808 tonnes). India is the one among the 2 fish producing country of the world. Currently seafood and seafood products have emerged as the largest group in agricultural exports of India. The sector's exports aggregated to 13.77 lakh tonnes in volume valued at US$ 7081.55 Million in 2017-18. More than 50 different types of

seafood products are exported to 75 countries around the world.

Comparison of exports from 2016-17 to 2017-18

The export of marine products in the year 2017-18 is compared with the year 2016-17, shown in Table 1.1.

Table 1.1: Comparison of exports from 2016-17 to 2017-18

Export details	2016-17	2017-18	Growth percent
Quantity Tonnes	1134948.00	1377244.00	21.35
Value Rs. crore	37870.90	45106.89	19.10
Value US $ Million	5777.61	7081.55	22.56

Source: www.mpeda.gov.in

Exports of marine products attained an all-time high of US $ 7081.55 million in the year 2017-18. Marine produce exports, extended all earlier records in rupee value, quantity and US $ terms. Exports combined to 1377244 tonnes worth of Rs. 45106.89 crores and US $ 7081.55 million. When compared to the before year, seafood exports documented a development of 21.35 percent in quantity, 19.10 percent in rupee and 22.56 percent growth in US $ earnings correspondingly.

II.MAJOR EXPORT MARKETS:

The major markets for our marine products are Japan, United States of America, member countries of European Union, Middle East and South East Asia countries. The item wise exports from April 2016 to March 2018 is shown in Table 1.2

Item		2016-17	2017-18	Percent Change
Fr. Shrimp	Quantity in ton	434486	565980	30.26
	Value in Crore	24711.32	30868.17	24.91

	US$ Million	3726.38	4848.19	30.10
Fr.Fin Fish	Quantity in ton	296761.88	353192	19.01
	Value in Crore	4460.9	4674.03	4.77
	US$ Million	672.47	733.17	9.02
Fr.Cuttlefish	Quantity in ton	63320	69183	9.25
	Value in Crore	1944.5	2356.46	21.18
	US$ Million	292.73	369.88	26.35
Fr. Squid	Quantity in ton	99348	100845	1.50
	Value in Crore	2575.29	2451.87	-4.79
	US$ Million	388.64	385.01	-0.93
Dried items	Quantity in ton	61071	88997	45.72
	Value in Crore	871.74	1042.37	19.57
	US$ Million	199.77	163.53	-18.19
Live items	Quantity in ton	6703	7034	4.93
	Value in Crore	403.75	286.11	-29.13
	US$ Million	61.05	45.41	-25.61
Chilled items	Quantity in ton	31815	19501	-38.70
	Value in Crore	769.81	647.41	-15.90
	US$ Million	116.02	101.78	-12.27
Others	Quantity in ton	141442	172512	21.96
	Value in Crore	2133.59	2780.48	30.31
	US$ Million	320.54	434.58	35.57
Total	Quantity in ton	1134948	1377244	21.34
	Value in Crore	37870.9	45106.89	19.10
	US$ Million	5777.61	7081.55	22.56

Table 1.2: Item wise Exports April- 2016 to March- 2018
Source: www.mpeda.gov.in

Of the total US $ earnings Frozen Shrimp prolonged to be the main export value item which accounted having a percent change of 30.26 quantity in tonnes.

Table 1.3: Market wise Exports - April- 2013 to March- 2015

Market		2016-17	2017-18	Percent Change
Japan	Quantity in ton	69039	85651	24.06
	Value in Crore	2621.37	2846.3	8.58
	US$ Million	394.5	445.27	12.86
USA	Quantity in ton	188617	247780	31.36
	Value in Crore	11482.16	14769.83	28.63
	US$ Million	1731.81	2320.05	33.96
European Union	Quantity in ton	189833	190314	0.25
	Value in Crore	6892.19	7115.96	3.24
	US$ Million	1038.59	1116.74	7.52
China	Quantity in ton	45443	49701	9.36
	Value in Crore	1341.94	1448.03	7.90
	US$ Million	202.19	227.39	12.46
South East Asia	Quantity in ton	484819	616707	27.20
	Value in Crore	11461.83	14250.26	24.32
	US$ Million	1728.19	2237.07	29.44
Middle East	Quantity in ton	52973	62220	17.45
	Value in Crore	1830.58	1849.1	1.01
	US$ Million	275.93	290.46	5.26
Others	Quantity in ton	104224	124871	19.81
	Value in Crore	2240.83	2827.4	26.17
	US$ Million	406.4	444.57	9.39
Total	Quantity in ton	1134948	1377244	21.34
	Value in Crore	37870.9	45106.89	19.10
	US$ Million	5777.61	7081.55	22.56

Source: www.mpeda.gov.in

The market wise export from April 2016 to March 2018 is shown in Table 1.3. USA is the major purchaser of marine Indian produce. South East Asia is the second biggest export market.

Objectives:
To analyse the problems faced by exporters in sea food supply chain

Research Design
The type of this research is descriptive and analytical in nature.

Data Collection:
Both primary and secondary data are used for this study.

Sample Size:
26 exporting companies

Sampling Method:
Multi Stage Sampling Method

Sampling Design:
Only European Union approved plants from randomly selected districts are selected for this study.

Table 1.4: Sample Design

Sl. No.	Particulars	Number of Exporting Companies
1	Total population of exporting companies	309
2	Total European Union Approved Exporting Companies	35
3	Total European Union approved exporting companies from the selected districts	26

Source: www.mpeda.gov.in

Multi Stage Sampling:

Table 1.5: First Stage of Sampling for Exporting Companies

Sl.No	Districts	Exporting Companies
1	Ramanathapuram	1
2	Kanyakumari	6
3	Nagapattinam	59

4	Tuticorin	5
5	Chennai	176
	Total	247

Source: www.mpeda.gov.in

Table 1.6: Second Stage of Sampling for Exporting Companies

Sl.No	Districts	European Union (EU) approved exporting companies
1	Ramanathapuram	3
2	Kanyakumari	5
3	Tuticorin	13
4	Chennai	5
	Total	26

Source: www.mpeda.gov.in

Tools Used:
Percentage Analysis, ANOVA

Analysis:

Percentage Analysis:
III.LOCATION OF THE CONCERN

The location of the exporting concern is based on the sample area of the study which includes Ramanathapuram district, Kanyakumari district, Tuticorin district and Chennai District, as in Table 1.7.

Table 1.7: Location of the Concern

Sl.	Location of the	No. of	Perce

No	concern	Respondents	ntage
1	Ramanathapuram	3	11.5
2	Kanyakumari	5	19.2
3	Tuticorin	13	50
4	Chennai	5	19.2
	Total	**26**	**100**

Source: Primary Data

Table 1.7 gives a clear picture of the location of the sample exporting companies. 50 percent of the exporting companies are located in Tuticorin district, 19.2 percent are located in Kanyakumari and Chennai district. 11.5 percent of the companies are from Ramanathapuram district.

IV ANOVA – Area and Supply Chain Problems (Exporting companies)

The relationship between area and supply chain problems of the exporting companies is analyzed using the ANOVA test. The area includes Ramanathapuram, Kanyakumari, Tuticorin and Chennai. The supply chain problems includes no good approach road, inadequate transport facility, high cost of transport, inadequate buying capacity for aluminum containers and plastic crates, no proper cold storage facility, delay in reaching the destination, over exploitation by middleman, fluctuation in price, low price offered by the buyer, delay in payment, Anti-Dumping Duty, inadequate market knowledge, poor brand image, changing quality standards by the trading countries, traceability roadblocks, competition from other firms, heterogeneity of products, increase in reefer base rates, terminal handling charges, unpredicted supply and demand, high cost, infrastructure problem, scarcity of raw materials and transportation problem.

H0: There is no significant between area and supply chain problems.

H1: There is a significant between area and supply chain problems.

Table 1.8: ANOVA for significant difference between area and Supply Chain Problems

Supply Chain Problems	Area				F value	P value
	Ramanathapuram	Kanyakumari	Tuticorin	Chennai		
No good approach road	4.66 -0.57	3.2 -1.64	3.46 -1.5	4.2 -0.83	1.068	0.383
Inadequate transport facility	3.33 -0.57	4 -1	3.69 -1.25	4.8 -0.44	1.698	0.197
High cost of transport	3.33 -2.08	3.6 -0.89	3.46 -1.45	3.8 -0.83	0.104	0.957
Inadequate buying capacity for Aluminum Containers and plastic crates	4.66 -0.57	3.2 -1.64	3.46 -1.5	4.2 -0.83	1.068	0.197
No proper cold storage facility	3.33 -0.57	4 -1	3.69 -1.25	4.8 -0.44	1.698	0.197
Delay in reaching the destination	3.33 -2.08	3.6 -0.89	3.46 -1.45	3.8 -0.83	0.104	0.957

Over exploitation by middleman	4.66 -0.57	3.2 -1.64	3.46 -1.5	4.2 -0.83	1.068	0.383
Fluctuation in price	3.33 -2.08	3.6 -0.89	3.46 -1.45	3.8 -0.83	0.104	0.957
Low price offered by the buyer	4.66 -0.57	3.2 -1.64	3.46 -1.5	4.2 -0.83	1.068	0.383
Delay in payment	3.33 -0.57	4 -1	3.69 -1.25	4.8 -0.44	1.698	0.197
Anti-Dumping Duty	4.66 -0.57	3.2 -1.64	3.38 -1.44	4.2 -0.83	1.219	0.326
Inadequate market knowledge	3.33 -2.08	3.6 -0.89	3.46 -1.45	3.8 -0.83	0.104	0.957
Poor brand image	3.33 -0.57	4 -1	3.69 -1.25	4.8 -0.44	1.698	0.197
Changing quality standards by the trading countries	3.33 -2.08	3.6 -0.89	3.46 -1.45	3.8 -0.83	0.104	0.957
Traceability Roadblocks	4.66 -0.57	3.2 -1.64	3.46 -1.5	4.2 -0.83	1.068	0.383
Competition from other firms	3.33 -2.08	3.6 -0.89	3.46 -1.45	3.8 -0.83	0.104	0.957
Heterogeneity of products	3.33 -0.57	4 -1	3.69 -1.25	4.8 -0.44	1.698	0.197
Increase in Reefer base rates	3.33 -0.57	4 -1	3.69 -1.25	4.8 -0.44	1.698	0.197
Terminal Handling Charges	3.33 -2.08	3.6 -0.89	3.46 -1.45	3.8 -0.83	0.104	0.957
Unpredicted supply and demand	4.66 -0.57	3.2 -1.64	3.46 -1.5	4.2 -0.83	1.068	0.383
High cost	3.33 -2.08	3.6 -0.89	3.46 -1.45	3.8 -0.83	0.104	0.957
Infrastructure	4.66 -0.57	3.2 -1.64	3.46 -1.5	4.2 -0.83	1.068	0.383
Scarcity of raw materials	3.33 -0.57	4 -1	3.69 -1.25	4.8 -0.44	1.698	0.197
Transportation problem	4.66 -0.57	3.2 -1.64	3.46 -1.5	4.2 -0.83	1.068	0.383

Table 1.8 it is clear that the P value is greater than 0.01 which means, the null hypothesis is accepted and hence concluded that there is no significant relationship between area and supply chain problems.

V.CONCLUSION:

Though the sea food sector is one of the important income generating sectors, there are many supply chain problems prevailing with the exporters. Government can take steps to properly organize this sector so that the exporters and other key players involved in these activities are equally benefitted.

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