Production and Marketing of Fishery in Pudukkottai District.

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Introduction

Generally, a fishery is an entity in raising or harvesting fish which is determined by some authority to be a fishery. According to the FAO, fishery is typically defined in terms of the "people involved, species or type of fish, area of water or seabed method of fishing, class of boats, and purpose of the activities or a combination of the foregoing features". The definition often includes a combination of fish and fishers in a region, the latter fishing for similar species with similar gear types. A fishery may involve the capture of wild fish or raising fish through fish farming or aquaculture. Directly or indirectly, the livelihood of over 500 million people in developing countries depends on fisheries and aquaculture. Fish significantly contributed to human food supply and food security and nutrition (FSN) for more than 660 million fish workers and their families.

Fishery and Economy

Marine fisheries constitute an important component of Indian economy today. Fishing in India contributed over 1 percent of India's annual gross domestic product in 2008. Fisheries are an important sector in India-it provides employment to millions of people and contributes to food security of the country.

Accordingly to the estimate for the year 2015-16, there was about Rs.1 lakh crore value fisheries production within the country. In fish production, India's constantly at the second position after china with a fish production of 72.1 lakh tones from the Indian fisheries. India has second place in the world. India can achieve about 8 percent growth rate in Indian fishery[2].

Developing countries play a major role in the fishery industry. They account for more than three quarters of the World's fishery production and for almost half of the World's exports. A large part of exports from developing countries is aimed at developed countries that have a growing demand but tend to have stagnant domestic fishery productions. Several developing countries import raw materials and re-export processed fish products.

The fisheries sector registered a sustainable growth rate of over 10 per cent and contributed over one percent of India's annual gross domestic product during the last decade. The vibrancy of the sector can be visualized in fish production in just six decades, i.e. from 0.75 million tonne in 1950-51 to 10.16 million tone during 2014-15. This sector offers an attractive and promising future for employment, livelihood and food security. The fisheries contribution to GDP around Rs 1,18,000 crore contributing to around 0.83 percent of the total GDP. The sector contributes around 4.75 per cent of the agriculture GDP[3].

The major objectives of this study are

1. To study the production of marine fisheries
2. To analyze the marketing of marine fisheries

Table 1 : Growth and Variability in the Fish Production in Tamil Nadu during 2003-04 to 2013-14.

Variables	Regression Coefficients			CGR	Coefficient of Variation (in %)
	a	B	R^2		
Marine	4.37	0.039[*]	0.82	0.09	40.9
Inland	1.99	0.025[*]	0.93	0.06	25.6
Total	6.38	0.013[**]	0.32	0.03	20.5

* Significant at 5% level   **Significant at 10% level

source : Office of the Assistant Director, Fisheries, Pudukkottai.

The regression analysis that was carried out over the period of analysis shows a highly significant result with respect to production of fish in marine, inland and total production in Tamilnadu. There was significant increase in all the variables. The compound growth rate for the production of fish in marine was 0.09 indicating an increase of 9% per annum in the

production of fish in marine. With respect to inland production of fish, the corresponding compound growth rate was 0.06 indicating an increase of 6% per annum in the production of fish in inland. From the table1, it was observed that there is more variability in the marine production then in the inland. Least variability was observed in the case of total production.

Table: 2 : Growth and Variability in the Fish Production in Pudukkottai District during 2003-04 to 2012-13.

Variables	Regression Coefficients			CGR	Coefficient of Variation (in %)
	A	b	R^2		
Marine	5.053	0.052[*]	0.72	0.12	30.9
Inland	1.61	0.04[*]	0.35	0.10	20.6
Total	6.66	0.132[*]	0.62	0.03	18.5

* Significant at 5% level

Source : primary data.

The regression analysis that was carried out over the period of analysis shows a highly significant result with respect to production of fish in marine, inland and total production in Pudukkottai District. The same picture as in TamilNadu is reflected in the Pudukkottai District also.   There was significant increase in all the variables. The compound growth rate for the production of fish in marine was 0.12 indicating an increase of 12% per annum in the production of fish in marine. With respect to inland production of fish, the corresponding compound growth rate was 0.10 indicating an increase of 10% per annum in the production of fish in inland. From the table2, it was observed that there is more variability in the marine production then in the inland. Least variability was observed in the case of total production.

Determinants Of Revenue From Fish Catchment In Pudukkottai District

A multiple linear regression model is fitted to find out the determinants of revenue earned from fish catchment in the Pudukkottai District. In this model, cost incurred for capital, labour, fuel charges and maintenance charges   are taken as independent variables and revenue earned is the dependent variable

The fitted Regression model is

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + u$$

Y – Revenue earned from fish catchment

X_1 – Cost incurred for capital

X_2– Cost incurred for Labour

X_3 – Cost incurred for Fuel Charges

X_4 – Cost incurred for maintenance Charges

β_0 – Constant

β_1, β_2, β_3, β_4 – Parameters to be estimated

u – Random variable

Table 3 : Determinants of Revenue earned from the fish catchment in Pudukkotai District

Sl. No.	Type of Boats	Regression Coefficiens					R^2
		0	1	2	3	4	
1.	Mechanised Boats	21.6* (3.45)	0.21* (2.99)	1.98* (13.4)	0.74* (15.6)	0.98* (13.7)	0.87
2.	Non-Mechanised Boats	14.7** (11.6)	0.48* (12.9)	1.87* (10.3)	0.29* (12.4)	0.45* (14.2)	0.89

* Significant at 5% level.   ** Significant at 1% level.

Figures in the parentheses are calculated t' value

Source : primary data

From Table 3, the coefficient of the independent variables in the regression model found to be positive and are statistically significant. In the case of mechanized boats, a one rupee increase in capital leads to 0.21 per cent increase in revenue earned and it was 0.48 for Non- mechanized boats. If labour cost is raised by one rupee, the revenue earned is increased by 1.98 in the case of mechanized boats and 1.87 in the case of non- mechanized boats. If the fuel charges is raised by one rupee, the revenue earned is raised by 0.74 in the case of

mechanized boats and 0.29 in the case of Non- mechanized boats. If the maintenance charges are raised by one rupee, the revenue earned is raised by 0.98 in the case of mechanized boats and 0.45 in the case of Non- mechanized boats. It is found from the analysis that whether it is mechanized or non-mechanised boats labour cost has more influence in the revenue earned from the catchement of fish in the Pudukkoai district.

Table 4: Average Input – Output Ratio For the Mechanised Boats andNon-mechanised Boats

Variables	Mechanised Boats	Non-Mechanised Boats
Capital – Output Ratio	0.35	0.23
Labout-Output Ratio	0.39	0.46

Source : Primary data

Table 4 shows that the average input-output ratio in the fish production in puddukottai district. It is derived from the results that to produce one unit of fish in the case of mechanized boats it requires 0.35 units of capital and 0.39 units of labour. In the case of non-mechanised boats, to produce one unit of fish it requires 0.23 units of capital and 0.46 units of labour. It is evident that both in mechanized and non-mechanised boats labour inputs has a major role in the production of fish

Marketing Margins and Efficiency

• The gross marketing margin refers to the difference between the price paid by the consumer and the price received by the producer. This inclu4es all costs of assembling, grading, packing, transportation, processing and storage, wholesalers and retailers margin.

• The marketing margin is an indicator of the marketing efficiency. In the absence of any value added process, higher the value of the marketing margin, lower the efficiency of the system. On one hand, the producers deserve a legitimate share in the consumer's rupee and on the other hand, the consumer's rights have to be safeguarded against excessive prices. These twin objectives can he achieved by ensuring various marketing services at reasonable costs. i.e., restricting margins at a reasonable level. In a nutshell, if the movement of goods from producer to the consumer takes place at minimum cost, the marketing system is said to be efficient.

Table 5 :Marketing efficiency of selected Varieties of Marine fish per kg in Pudukkottai.

Particulars	Red snapper	Ribbon fish	barracuda	White fish	Gar fish	Whiptail sing ray	Kalava	seabream	Pomfret	Sea bass
Price Received by fishermen	180 (72.0)	120 (66.7)	500 (71.4)	300 (66.6)	200 (66.6)	90 (60.0)	200 (68.9)	50 (62.5)	270 (71.1)	280 (700)
Auctioneers fee	20 (8.0)	20 (11.1)	50 (7.2)	30 (6.7)	30 (10.0)	20 (13.3)	30 (10.4)	5 (6.25)	30 (7.97)	30 (7.5)
Price Paid by retailer	220	140	550	330	230	110	230	55	300	310
Cost incurrent by retailor (transport ricing)	10 (4.0)	10 (5.6)	30 (4.3)	30 (6.7)	20 (6.7)	10 (6.7)	20 (6.9)	10 (12.5)	15 (3.9)	20 (5.0)
Margin	40 (16.0)	30 (16.6)	120 (17.1)	90 (20.0)	50 (16.7)	30 (20.0)	40 (13.8)	15 (18.7)	65 (17.1)	70 (7.5)
Price Paid by Consumer	250 (100)	180 (100)	700 (100)	450 (100)	300 (100)	150 (100)	290 (100)	80 (100)	380 (100)	400 (100)
Marketing efficiency	72.0	66.7	71.4	66.6	66.6	66.0	68.9	62.5	71.1	70.0

Table 6 :Price Spread of selected Varieties of Marine fish per kg in Pudukkottai.

S.No	Variety is Fish (%)	Consumer's Price (%)	Fisherman's Net Share (%)	Price Spread (%)
1	Red snapper	100	72.0	28.0
2	Ribbon fish	100	66.7	33.3
3	Barrucuda	100	71.4	28.6
4	White fish	100	66.6	33.4
5	Gar fish	100	66.6	33.4
6	Whiptail sing ray	100	60.0	40.0
7	Kalava	100	68.9	31.1
8	Seabream	100	62.5	37.5
9	Pomfre	100	71.1	28.9
10	Seabass	100	70.0	30.0

Source: Primary data
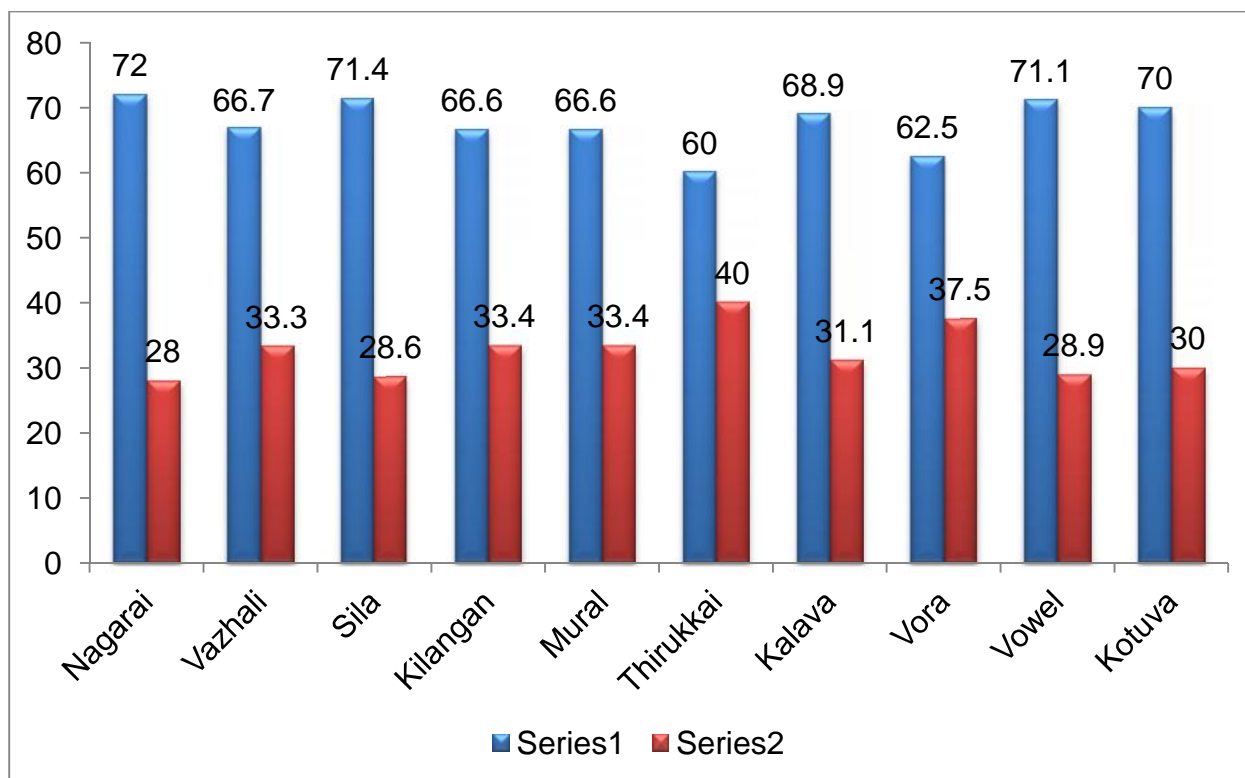
Source : Pirmary data

Conclusion

If fishing industry is o survive, he preservation of eco-system is important. The importance of his sector has not been realized by the people concerned. In the context of the growing population and dwindling food supply and also the depletion of our foreign exchange reserves here is an urgent need for evolving appropriate strategies for promoting marine fisheries. They have abundant potential to satisfy domestic as well as external demand for protein rich food items.

References

Putting fish back on the menu, FAO Agriculture Newsletter 54 March 2016, p-2

Fish production in India, Latest data, Best Current Affairs, November 21, 2016.

Food consumption pattern in India, exports – overview, Food & Beverage News, August 1-15, 2016, p