Study on Marketing and Consumer Buying Behaviour of Inland Fish (Catla Catla) in Darjeeling District of West Bengal

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Abstract:- The present study entitled "STUDY ON MARKETING AND CONSUMER BUYING BEHAVIOUR OF INLAND FISH(*Catla catla*) IN DARJEELING DISTRICT OF WEST BENGAL" was conducted in the year 2022-2023 with a sample of 110 respondents in Matigara Block of Darjeeling district of West Bengal. During the study it has been revealed that maximum respondents were having small size farm followed by medium and large. It has been revealed that there are maximum young age respondents followed by old and middle. it has been revealed during the study that there is male respondents are more in comparision to female respondents in the study area. It has been found that among total sample maximum were belonging to SC/ST category followed by general and OBC. In religion category it has found that maximum of the respondents were Hindu followed by Muslim and Christian . it has been found during the study majority of respondents were living in joint family in comparison to respondents living in nuclear family. There maximum number of respondents are literate and 19 percent of respondents were illiterate. It has been found that there are three marketing channel which are involved in marketing of inland fish Catla in Darjeeling district. Among three channel III is preferred majorly which is producer—wholesaler-retailer-consumer followed by channel II which is producer- wholesaler-consumer and channel I which is producer-consumer. It has also been reveals that there are various factor which affects in buying behaviour of consumer are physical properties, preferred weight and shopkeeper reputation and price. reveals that there are eight marketing constraint that affect in marketing of Catla fish in Darjeeling district of West Bengal are High Commission charges with 105 respondents response ranked I, Frequent price fluctuation with 103 respondents response ranked II, High transportation cost charges with 95 respondents response ranked III, Lack of proper infrastructure in market with 90 respondents response ranked IV, Lack of Awareness of new technologies with 87 respondents response ranked V, Lack of information about government schemes and subsidies with 85 respondents response ranked VI, Lack of cooperative in marketing society at village level with 83 respondents response ranked VII and Lack of amenities and facilities in the market subsidies with 82 respondents response ranked VIII.

Keywords:- *Socio-Economic, Marketing Channels, Consumer Buying Behaviour, Marketing Efficiency, Marketing Margin, Price Spread, Producer's Share and Constraints.*

I. INTRODUCTION

Catla fish, also known as Indian carp, is a freshwater fish species that is native to South Asia, particularly India, Bangladesh, and Nepal. It is a popular food fish that is widely cultivated in ponds, lakes, and reservoirs, and is also caught from rivers and estuaries. Catla fish is a fast-growing species that can reach up to 1 meter in length and weigh up to 40 kg. It has a shiny silver body, a slightly concave head, and a large mouth with prominent lips. It is an omnivorous fish that feeds on both plant and animal matter, including algae, zooplankton, insects, and small fish. In South Asian cuisine, Catla fish is highly valued for its delicate and sweet flesh, which is low in fat and high in protein. It is commonly prepared in a variety of ways, including steaming, frying, grilling, and currying. It is also used in traditional dishes such as fish biryani and fish curry.Catla fish is an important fish species for aquaculture, as it is easy to breed, fast-growing, and adaptable to a wide range of environmental conditions. It is also a hardy fish that can tolerate low oxygen levels and high stocking densities. In recent years, there has been a growing demand for Catla fish in international markets, particularly in the Middle East,

Europe, and North America.In West Bengal, Catla fish is widely cultivated in ponds, lakes, and reservoirs, as well as in freshwater cages and pens. The fish is typically reared in polyculture with other species such as Rohu and Mrigal, as this helps to maintain a balanced ecosystem and maximize productivity.Catla fish is an important source of food and income for many people in West Bengal, particularly in rural areas. It is consumed fresh, dried, smoked, or canned, and is used in a variety of traditional dishes such as fish curry, fish fry, and fish biryani. The fish is also exported to other parts of India and to international markets, where there is a growing demand for high-quality freshwater fish.

II. RESEARCH METHODOLOGY

➤ *Selection of the District:*
There are 23 district in West Bengal state. Out of these Darjeeling district of West Bengal was selected purposively for present study because in Darjeeling, bioflock and pond

fisheries are grown in large area and also large quantity of fish traded daily in fish market/mandi.

➤ *Selection of Block:*
There were 13 development blocks in the district, Out of these blocks Matigara block was selected purposively for the study.

➤ *Selection of Village:*
Out of 78 villages falling in the Matigara development block, 5% villages was selected randomly for primary data collection.

➤ *Selection of Respondents:*
From the selected village list of all the inlnand fish (catla) saler and inland fisherman (catla) was prepared.. For the selection of respondents from families were listed and 30% respondents were randomly selected and classified into three group on the basis of land holding and production.

Table 1 Selection of Respondents

District	Block	Village	Sample	Respondents			Total
Darjeeling	Marigara	Baniakhari	29	Small	Medium	Large	
				14	10	5	29
		Bara Gharia	30	15	10	5	30
		Bara Mohansingh	29	12	12	5	29
		Bairatisal	22	13	5	4	22
Total			110	54	37	19	110

➤ *Selection of Market:*
Three prominent fish market mainly Siliguri mandi, Matigara bazar and Siliguri fish market were selected purposively for data collection.

➤ *Analytical Tools:*
Mean formula

$$Mean = \frac{Sum \ of \ Observation}{Number \ of \ Observation}$$

➤ *Marketing Margin:*
Marketing margin = Product price – raw material

➤ *Marketing cost:*
C = CF + CM1 + CM2 + CM3 + CMn

➤ *Price Spread:*
Price Spread= {(consumer price – net price of producer)/consumer price}x 100

➤ *Producer Share in Consumer's Rupee:*

$$\frac{Net \ price \ received \ by \ producer}{Consumer \ price} \ X \ 100$$

➤ *Garrett Ranking:* Percentage = $100(Rij−0.5) \ Nj$

➤ *Market Efficiency:*

$$\frac{Consumer \ paid \ price}{Total \ Marketing \ Cost + Total \ marketing \ Margin}$$

III. RESULT AND DISCUSSION

Table 2 Farm Size

Sr. No.	Category	Frequency	Percentage
1.	Small	54	49.09%
2.	Medium	37	33.63%
3.	Large	19	17.27%
Total		110	100%

➤ *Table 2:*
Above reveals Farm size is one of the prime socio-demographic variables in this study. As farm size affects the buying decision, it has an essential association in market-related research. Out of the total, 110 respondents 54(49.09%) respondents were having small size farm, 37(33.63%) were having medium size farm and remaining 19(17.27%) were having large size farm.

Table 3 Age

Sr. No.	Particulars	Small	Medium	Large	Total
1.	Young (20-35 years)	15	28	12	**55 (50%)**
2.	Middle (36-50 years)	15	5	5	**25 (22.72%)**
3.	Old (above 50 years)	24	4	2	**30 (27.27%)**
	Total	**54**	**37**	**19**	**110**

➢ *Table 3:*

Above reveals that One of the critical socio-demographic factors in this study is Age. Age is given such importance in market-related research, because it affects the physical and psychological aspect of the consumer, which, in turn, affects his/her buying behavior. From this Table it can be concluded that 55(50%) respondents are in the young age group, 25(22.72%) respondents are in the middle age group, 30(27.27%) respondents are in old age.

Table 4 Gender

Sr. No.	Particulars	Respondents			
		Small	Medium	Large	Total
1	Male	44	32	16	92 (83.63%)
2	Female	10	5	3	18 (16.37%)
	Total	**54**	**37**	**19**	**110 (100%)**

➢ *Table 4:*

Above represents Gender is one of the prime socio-demographic variables in this study. As gender affects the buying decision, it has an essential association in market-related research. Due to the distinction in their perception and socialization, men and females tend to have distinct conclusions while buying. Out of the total, 110 respondents 92 respondents were male, that is 83.63% while the Remaining 18 were female that is 16.37% of total sample.

Table 5 Education

Sr. No.	Particulars	Respondents			
		Small	Medium	Large	Total
1.	Primary	15	7	5	27 (24.54%)
2.	High School	17	8	4	29 (26.36%)
3.	Intermediate	8	9	5	22 (20%)
4.	Graduation & above	4	8	1	13 (11.81%)
	Total Literate	**44**	**32**	**15**	**91 (82.72%)**
5.	Illiterate	10	5	4	19 (17.27%)
	Total	**54**	**37**	**19**	**110**

➢ *Table 5:*

Above reveals another socio-demographic factor considered in this consumer behaviour study is education. From the table below among 110 respondents, 19% respondents found to be illiterate. The highest number of respondents were found to have high school degree qualification. They constitute 29(26.36%), 27(24.54%) were found that they are qualified till primary, 22(20%) were found that they are qualified till intermediate and 13(11.81%) were qualified till Graduation and above. Thus it can be seen majority among all is primary category which is 27(24.54%).

Table 6 Caste Category

Sr. No.	Particulars	Respondents			
		Small	Medium	Large	Total
1	General	20	10	5	35 (31.81%)
2	OBC	12	10	6	28 (25.45%)
3	SC/ST	22	17	8	47 (42.72%)
	Total	**54**	**37**	**19**	**110 (100%)**

➢ *Table 6:*

Above reveals that Category is one of the prime socio-demographic variables in this study. Out of the total, 110 respondents 35(31.81%) respondents were in general category, and 28 were in OBC category that is 25.45% while the remaining 47 were SC/ST that is 42.72% of total sample.

Table 7 To Recognize the Different Existing Marketing Channel of Inland Fish (Catla)

Sr. No.	Channel Type	No of Respondents	Percentage
1.	Channel – I	05	4.54%
2.	Channel – II	25	22.73%
3	Channel-III	80	72.73%
Total		**110**	**100%**

➢ *Table 7:*

Above reveals during the study that among 110 sample 5(4.54%) were preferring channel 1 to buy and sell Inland Fish (Catla) through channel 1, 25 (22.73%) were preferring channel 2 to buy and sell inland fish (catla) and left 80(72.73%) respondents were preferring channel 3 to buy or sell inland fish catla in the study area.

Table 8 Distribution of respondents according to their buying behaviour on Physical properties of inland fish (catla) while buying

Sr. No.	Particulars	Frequency	Percentage
1.	Shiny colour	35	31.82%
2.	Fishy Smell	12	10.91%
3	Red gills	45	40.91%
4.	Clear Eye	18	16.36%
	Total	110	100%

➢ *Table 8:*

Above table reveals that respondents according to their buying behaviour on physical properties which they look while buying of inland fish (catla) are 35 respondents response over shiny colour , 12 respondents response over fishy smell, 45 respondents respond over red gills and lastly 18 respondents response over clear eye.

Table 9 Distribution of respondents according to their buying behaviour over the weight of inland fish catla while buying

Sr.No	Particulars	Frequency	Percentage
1	<1.5kg	50	45.45%
2	2kg	20	18.18%
3	<2 kg	40	36.37%
	Total	110	100%

➢ *Table 9:*

Above table reveals that respondents according to their buying behaviour on preferred weight which they look while buying of inland fish (catla) are 50(45.45%) respondents response over the weight less than 1.5 kg, 20 (18.18%) respondents response over the weight upto 2 kg and 40(36.37%) respondents respond over the weight more than 2 kg which they look while buying inland fish catla in the study area.

Table 10 Distribution of respondent according to their buying behaviour over the Shopkeeper reputation in their eye and price while buying of inland fish catla.

Sr. No	Particulars	Frequency	Percentage
1	Shopkeeper behaviour	20	18.18%
2	Price	90	81.82%
	Total	110	100%

➢ *Table 10:*

Reveals that factor that affect respondent while purchasing of catla fish is 20(18.18%) respondents look over the Shopkeeper behaviour, the way that shopkeeper treats their customer and 90(81.82%) look over the price while purchasing of inland fish catla.

Table 11 Price spread, Producer's Share in Consumer rupees and Marketing Efficiency of Inland fish (catla) through marketing channel I. Producer- Consumer

Sr. No.	Particulars	Value in Rs./Quintal	Value in Rs./kg
1	Producer sale price to consumer	20,000	200
	Charges Borne by producer		
1	Transportation cost	282	2.82
2	Loading and unloading cost	160	1.6
3	Market Entry Fee	200	2
4	Miscellaneous charges	150	1.5
	Total cost (1-4)	792	7.92
Net price Recevied by producer		**19,208**	**192.08**

Margin of producer	10,000	100
Total Marketing Cost	792	7.92
Total Marketing margin	10000	100
Marketing efficiency	1.85%	1.85%
Price Spread	792	7.92
Producer share in Consumer Rupees	96.04%	96.04%

➢ *Table 11:*

Reveals that selling price of catla fish through channel 1 is Rs20,000/quintal from producer to consumer, cost incurred by producer in marketing is Rs792/quintal, marketing margin channel is Rs10000. Eventually the marketing efficiency is 1.85%, price spread is Rs.792 and producer share in consumer's Rupee in channel 1 is 96.04%.

Table 12 Price spread, Producer's Share in Consumer rupees and Marketing Efficiency of Inland fish (catla) through marketing channel II Producer – Wholesaler -Consumer

Sr. No.	Particulars	Value in Rs./Quintal
1	Producer sale price to wholesaler	22000
	Charges Borne by producer	
1	Transportation cost	282
2	Loading and unloading cost	160
3	Market Entry Fee	200
4	Miscellaneous charges	150
	Total cost (1-4)	792
	Net price Received by producer	21208
	Margin of producer	12000
	Wholesaler price to consumer	25500
	Cost incurred by Wholesaler	
1	Loading and unloading cost	160
2	Transportation cost	250
3	Market Entry Fee	200
4	Miscellaneous charges	100
	TOTAL COST INCURRED BY WHOLESALER	710
	Margin of Wholesaler	2790
	Sale price to consumer per kg	255/kg
	Total Marketing cost	1502
	Total Marketing margin	14790
	Marketing Efficiency	1.56%
	Price Spread	4292
	Producer's Share in Consumer Rupees	83.16%

➢ *Table 12:*

Reveals that producer sale price to wholesaler is 22000/quintal of catla the inland fish, marketing cost incurred by producer is Rs 792/quintal, with profit margin of Rs 12000/quintal ,net price received by producer is Rs 21208/quintal and wholesaler selling price to consumer is Rs 25500, with profit margin of Rs 2790/quintal. Marketing cost incurred by wholesaler in marketing of catla fish is Rs 710/quintal. Total marketing cost in channel 2 is 1502/quintal total marketing margin in channel 2 is Rs.14790/quintal . eventually the marketing efficiency in channel 2 is 1.56% , price spread in channel 2 is Rs 4292, and producers share in consumer rupees in channel 2 is 83.16%.

Table 13 Price spread, Producer's Share in Consumer rupees and Marketing Efficiency of Inland fish (catla) through marketing channel III. Producer- Wholesaler – Retailer- Consumer

Sr. No.	Particulars	Value in Rs./Quintal
1	Producer sale price to wholesaler	22000
	Charges Borne by producer	
1	Transportation cost	282
2	Loading and unloading cost	160
3	Market Entry Fee	200
4	Miscellaneous charges	150
	Total cost (1-4)	792
	Net price Recevied by producer	21208
	Margin of producer	12000
	Wholesaler price to Retailer	24800

	Cost incurred by Wholesaler	
1	Loading and unloading cost	160
2	Transportation cost	250
3	Market Entry Fee	200
4	Miscellaneous charges	100
	TOTAL COST INCURRED BY WHOLESALER	**710**
	Margin of Wholesaler	**2090**
	Cost incurred by retailer	
1	Loading and unloading cost	150
2	Transportation cost	130
3	Market Entry Fee	200
4	Miscellaneous charges	75
	Total cost (1-4)	**555**
	Selling price from retailer to consumer	**28178**
	Margin of retailer	**2823**
	Sale price to consumer per kg	**281.78**
	Total Marketing cost	**2057**
	Total Marketing margin	**16913**
	Marketing Efficiency	**1.48%**
	Price Spread	**6970**
	Producer's Share in Consumer Rupees	**75.26%**

➤ *Table 13:*

Reveals that producer sale price to wholesaler is 22000/quintal of catla the inland fish, marketing cost incurred by producer is Rs 792/quintal, with profit margin of Rs 12000/quintal ,net price received by producer is Rs 21208/quintal and selling price from wholesaler to retailer is Rs 24800, the cost incurred by wholesaler in marketing is Rs 710/quintal and profit which wholesaler gets in selling catla to retailer is Rs 2090/quintal. Consumer price from retailer in channel 3 is 28178/quintal, cost incurred by retailer in marketing of catla is Rs 555/quintal, with profit of Rs2823/ quintal. Eventually it is seen that total marketing cost in channel 3 is Rs 2057, total marketing margin in channel 3 is Rs16913 and marketing efficiency is 1.48% and price spread seen in channel 3 is Rs 6970 and producer's share in consumer rupees is Rs 75.26%.

Table 14 Constrains problems in marketing of inland fish (*Catla catla*) in the study area.

Sr. No.	Particulars	Frequency	Ranking
1	Frequent price fluctuation	103	**II**
2	Lack of Awareness of new technologies	87	**V**
3	Lack of information about government schemes and subsidies	85	**VI**
4	Lack of amenities and facilities in the market	82	**VIII**
5	High transportation cost	95	**III**
6	Lack of cooperative in marketing society at village level	83	**VII**
7	Lack of proper infrastructure in market	90	**IV**
8	High Commision charges	105	**I**

➤ *Table 14:*

Reveals that there are eight marketing constraint that affect in marketing of catla fish in Darjeeling district of West Bengal are High Commision charges with 105 respondents response ranked I, Frequent price fluctuation with 103 respondents response ranked II, High transportation cost charges with 95 respondents response ranked III, Lack of proper infrastructure in market with 90 respondents response ranked IV, Lack of Awareness of new technologies with 87 respondents response ranked V, Lack of information about government schemes and subsidies with 85 respondents response ranked VI, Lack of cooperative in marketing society at village level with 83 respondents response ranked VII and Lack of amenities and facilities in the market subsidies with 82 respondents response ranked VIII

IV. CONCLUSION

Inland fish farming is a profitable business. It provides good returns in short span of time. Inland fish farming (Catla) production is most profitable in the case of large farm groups (having more than 3000 m² area). The study pertains to the marketing of inland fish (Catla) in Darjeeling district main objective of the study is to analysis socio economic characteristics of sample respondent's, marketing channels, consumer buying behaviour , price spread and constants in production and marketing of Catla. The results revealing that the socio-economic status of respondents found to be moderate with primary education well economic background greater access to all the assets. Most of the respondents were selling Catla fish through channel III and as compared channel I (producer-consumer) and II (producer-wholesaler-consumer) respectively. In consumer buying behaviour in physical properties shinny colour was

seen more as compared to fishy smell, red gills and clear eye. In preference of weight by consumer maximum of consumer were preferring <1.5kg weight fish followed by >2kg weight and 2 kg weight. Under shopkeeper reputation and price consumer is preferring price over shopkeeper behaviour. Marketing efficiency is seen high in channel 1 as compared to channel II and channel III. Producer share in consumer rupees if highest in channel I followed by Channel 2 and Channel 3. Major constraints in production and marketing were found that high transportation cost , frequent price fluctuations, Lack of information about government scheme and subsidies.

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