



Fish Consumption Behavior in West Godavari District, AP, India

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Abstract

The end-user's perceptions and consumption behavior of the fish determines the success of the marketing system. A study has been made to analyse consumption behaviour of fish. It is found that the portion of fish in the total food consumption increased with increase in income initially but marginally declined with higher income categories. The average household fish consumption is 2.86 kg per month. Housewife is the decision maker on a variety of fish to be purchased in the low income category. A common feature among the upper income group is the purchase of fish by the chief wage earner or by the domestic help. A proportion of 47 per cent of the households consuming fish buys fish from street vendors. This proportion is higher in the lower income groups, indicating a regular demand for the product from this class. Consumers perceive that freshness is a significant factor to purchase fish. The study reveals that poor hygiene conditions exist at fish retail outlets. However, majority of the respondents was satisfied with the curries at hotels. The study clearly indicates that fish is a highly appreciated food in all income groups due to its easy availability, affordable price, taste and nutritive value. Consumers with low and middle incomes perceive fish as one of the cheapest forms of adding value to their food intake.

Keywords: Fish consumption, buying behavior, income status.

Introduction

The consumer is the main determinant of the quality and diversity of fish supplied to fish market. If consumer tastes and food habits are assessed in advance, i.e. prior to production, fish varieties that are in demand and marketability can be supplied to them. Understanding consumer for the purpose of achieving marketing objective is imperative. Balassa, Bela¹ says the goal of any marketing system is to satisfy needs and wants of consumers, more so with the fish marketing system. In a market system based on the individual choice, consumers strongly influence what will be produced for whom and what resources will be used to produce it.

The end-user of fish marketing system determines the success of the system through his/her consumption behavior. Consumer's purchase and preferences actually form the ultimate basis for most of our economic system. They provide rewards for the design, production and delivery of output.

Fish and fishery products are one of the most significant sources to meet sufficient animal based protein. There is a noticeable gap between developed and developing countries in terms of fish consumption. The annual per-capita consumption in developed countries is about 23.3 kg, whereas it is 14 kg in developing countries. Balassa, Bela¹ over the last a couple of decade's fishery product consumption has an increasing trend in India and in many developing countries due to fisheries growth, disposable income rising, and urbanization and health concerns. Fish consumption in a country depends on many

factors such as increasing population along with a sufficient supply of fish and fish products, demand, income, education level, consumer preferences and fish prices, each one of the factors impacts fish consumption.

Objectives: To study the consumer behaviour determinants namely fish consumption expenditure, consumption frequency, and quantity.

To analysis, consumer behavior with reference to perceptions, purchase decision, place of purchase, freshness and hygiene at retail outlets and eating out habits.

To identify needs-gaps or perceived problems, if any, in relation to awareness, availability, freshness, quality and to offer suggestions for improving fish marketing.

Methodology

The study examines fish consumption behavior of consumers. A survey has been done with a sample of 100 consumers randomly selected spread over different geographical locations using a structured questionnaire. The sampling technique that has been adopted was judgment sampling of non-probability sampling methods. In the study unstructured interviews were also conducted to analyse purchasing behavior of households. Consumer preferences and behaviour for fish consumption were examined from the consumer point of view.

Results and Discussions

Fish consumption pattern and affecting factors: Fish expenditure constitutes 28 per cent in the total food expenditure. The average expenditure share of fish in the total food consumption increased with increase in income initially, but marginally declined with higher income categories.

C. Sayin² says that fish expenditure has dominated the total non vegetarian expenditure which might be because of growing awareness of nutritional value and medicinal value of fish. Household food expenditures have an increasing trend while their income is increasing. The income and food expenditure particulars of the respondents are furnished in the table 1. It is evident from the table food expenditure increases with increase in income up to income class of Rs. 10,000 per month. None of the sample respondents belong to income class of below Rs.3000 per month. The average fish expenditure of six income groups was Rs.192.20 per- month, whereas the average non –vegetarian expenditure was Rs 454.00 and the average vegetable expenditure was Rs. 233.00. The proportion of fish expenditure was 42 per cent in the total non – vegetarian expenditure. The highest fish expenditure was represented by income class of Rs.10,000 per month. The lowest expenditure was represented by income class of Rs.3000 –4500 per month.

Consumption relationship between days and religion: The relationship between fish consumption days and religion is exhibited in table 2. Among the total respondents the proposition of consumers in three religions of Hindu, Christian and Muslim were 58 per cent, 20 per cent, and 18 per cent respectively. The

Table also indicates that as many as 71 respondents consume fish on Sunday and the composition of 71 respondents' religion wise indicates that 46 hails from Hindu, 13 from Christians and 12 from Muslims, whereas 42 respondents of Hindu religion, 18 respondents of Christian religion and 9 respondents of Muslim religion consume fish on weekly market days. The consumption of fish on all weekdays except Sunday by consumers of all religions was low.

The conclusion that emerges from the analysis is that a large number of consumers have the habit of consuming fish on Sunday and on weekly market days and consumption is normal on the remaining weekdays. Keeping this trend in view, fish supply has to be catered more on such days where there is more demand.

Consumption quantity: According to the study findings, household fish consumption (average family size 3.82 persons) is 2.86 kg per month. Table 3 represents the relationship between the size of the family and quantity of fish consumed per month. The average fish consumption of the respondents was 2.86 kg per month. David Loudon and Allert J. Della Bitta³ found that the highest consumption of fish was found more in family size of four and lowest consumption was in family size of two. Further insight into the table reveals that as many as 35 families consumed fish less than 2 kg per month, 47 families consumed fish of 2–4 kg per month, 12 families consumed fish of 4–6 kg per month, 4 families consumed fish of 6-8 kg per month and only one family sample respondents consumed fish more than 8 kg per month. It is also drawn from the table that large quantity of fish was consumed by 4 member family.

Table-1
Relationship Between Fish Consumer's Income and Food Expenditure

Income in Rs	Number of respondents	Food Expenditure			
		Vegetables	Non -Veg		Total
			Fish	Others	
Rs Below 3000	-	-	-	-	-
Rs 3000-4500	25	Rs 222.10	Rs 182.80	Rs 240.00	Rs 644.90
Rs 4500-6000	35	Rs 265.20	Rs 210.10	Rs 290.30	Rs 765.60
Rs 6000-7500	18	Rs 251.20	Rs 250.40	Rs 320.20	Rs 821.80
Rs 7500-10000	13	Rs 292.40	Rs 288.80	Rs 335.15	Rs 916.35
Rs Above 10000	9	Rs 368.10	Rs 220.40	Rs 385.40	Rs 973.90

Source: Field Survey

Table-2
Relationship between Fish Consumption Days and Religion

Consumption Days in a week	Religion			Total
	Hindu	Christian	Muslim	
Sunday	46	13	12	71
Monday	12	5	3	20
Friday	9	3	6	18
Saturday	5	8	4	17
Any festival day	42	18	9	69
Total	114	37	34	195

Source: Field Survey, Multiple responses are considered

Table-3
Relationship Between Size of the Family and Quantity of Fish Consumed Per Month

Size of the Family	Quantity of fish in kgs per month				
	<2 Kg/month	2-4 Kg/month	4-6 Kg/month	6-8 Kg/month	>8 Kg/month
2	1	-	-	-	-
3	5	3	-	-	-
4	16	16	2	1	-
5	8	14	2	-	-
6	4	7	4	3	-
7	-	6	1	-	1
More than 7	1	1	3	-	-
Total	35	47	12	4	1

Source: Field Survey

Perceptions Relating to Fish: Some of the responses of consumers, across all income groups, are quoted below to highlight their perceptions of fish as a food item.

Low – income consumers: “Fish is a relatively cheap source of non-vegetarian food”, “Good for the eyes – especially Sardine”
“Small fish are nutritious”, “Fish is good for B.P.”, “Shark is good for lactating mothers”, “Fond of eating fish”

Middle – income consumers: “Fish is good for health”, “Fish has high oil content”, “Good for colds, lactating mothers”, “Can prevent, cure many diseases”, “Rich in vitamin-A, calcium, protein”, “In non-vegetarian category fish offers wide variety”

Upper-income consumers: “Small fish is tasty also good for health”, “Medicines are made from fish oil”, “Fish can even help reduce weight”, “Has Vitamin-A”, “Has a taste of its own”
“Can substitute carrots, greens”, “Rich in protein, calcium”
“Contributes to good eyesight, long hair and brains”

Purchasing Decision: Housewife not only takes the decision on a variety of fish to be purchased but also purchase the fish. The incidence of purchase reduces with increasing income and is only about 50 percent in households with income over Rs. 6000. A common feature among the upper income group is the purchase of fish by the chief wage earner (46 per cent of the entire sample) or by the domestic helps (20 per cent of the entire sample).

The key variation between upper income group and other income groups is that upper income groups pre-decide on the variety before purchase whereas other income groups decide after seeing availability and freshness. In about half to two-thirds of the pre-decided cases, if the variety decided was not available, and half of those who did not find the variables returned without purchasing any alternative variety. This would, therefore, suggest a need for marketing of fish/fish products in places accessible to the housewife in these income groups.

Place of Purchase: A proportion of 47 per cent of the households consuming fish buys fish from street vendors. This proportion is higher in the lower income group, indicating a regular demand for

the product from this class. Almost all the other buys their fish in their locality – within a radius of less than one km. Only a discriminating 8 per cent in the lower income group and 11 per cent in the upper income groups go to places beyond 1 km. – Possibly to special markets for fish/fish products.

Freshness at Retail: Consumers perceive that freshness is a significant factor to purchase fish. Consumers share the same perception regarding the meaning of freshness across all income groups. Gandhi⁴ states in his study, in the minds of consumers fresh fish is distinguished from freshness as such fish that has not been kept on ice and are of the opinion that such fish is never available. Pathania Rajni⁵ stated that the use of ice to keep fish, fresh prior to sale appears to be commonly understood and this fact tends to dispel the assumption that many retailers have about the negative association that the consumer has with fish sold on ice.

Hygiene at Outlets: The study reveals that poor hygiene conditions exist at fish retail outlets which needs wide focus, though a section of consumers are insensitive towards hygiene. Roy B⁶ found only a discriminating 8 per cent in the lower income group and 11 per cent in the upper income groups go to places beyond 1 km. – Possibly to special markets for fish/fish products. Tey Yeong Sheng⁷ says the lower income consumer groups are prepared to bear with dirty markets in order to keep prices affordable. Another reason for bearing with the market could be as they clean fish at home not at the market. The low income makes them behave in such a way. But the visiting population of unhygienic market has been vulnerable to health hazards yet these hazards are immeasurable. The high income market segment identifies this problem as critical and tends to avoid dirty markets by sending servants to make the purchases. Health risks, such as cholera, diarrhea, etc., associated with consuming fish, are recognized as important factors inhibiting fish consumption. It is obvious that hygienic market facilities may attract more customers as long as prices remain unaffected. Middle/upper income groups would even pay a premium for better shopping comfort. Moreover, awareness about the ill-effects of poor hygiene at outlets would bring change in condition of the market.

There appear to be few barriers to consumption of fish/fish products in households. On the contrary, there is tremendous potential to increase the quantity of consumption of fish in all households. There would also appear to be an increasing tendency within the population towards fish consumption. Thammi Raju and Suryanarayana⁸ found in the lower income groups, just over 50 per cent consume less than 5 kg/capita/year only and consumption could be increased, probably by emphasizing to this income group the nutritional and health benefits of fish consumption in general. In the upper income groups, the consumption of fish with fewer bones i.e., the varieties preferred by them, could be increased through simple product development, focusing on the improved convenience, e.g. Pre-cleaning, enhanced quality and packaging, and by better marketing and distribution. However, the taste factor should always be maintained.

Eating Out: An attempt has been made in the study to find out the number of respondents consuming fish at hotels when they were on station and out of the station and the reasons given by them. The results of these findings are shown in the table 6. About 13 per cent consume fish at station hotels and 15 per cent of the respondents consume fish at out of station hotels totaling 28 percent of the respondents. The reason cited by these 28 per cent respondents was that availability of favourite dishes at particular hotels.

Verma Priyanka and verma rooble⁹ stated, out of the 22 per cent of the consumers who felt unhappy with the limited dishes at home, 12 per cent of the respondents consumed fish at station hotels and 10 percent of the consumers had fish at out of station hotels. As many as 50 percent of the respondents attributed the cause of enjoyment with friends out of which 9 per centime of the respondents consumed fish at station hotels and 41 percent of the respondents consumed fish at out of station hotels. The analysis reveals that 50 per cent of the respondents preferred to consume fish to have a nice time with friends. A large proportion of the respondents (66 percent) consume fish at out of station hotels. The implication of the finding is that improved varieties of fishes have to be introduced in order to satisfy the tastes of consumers.

Satisfaction levels with consumption: The satisfaction levels with respect to attributes of fish curry at hotels are depicted in the Table 7. As can be seen from the table that the majority of the respondents were satisfied with the three attributes listed in the table. A large proportion (94 per cent) of the respondents is satisfied with the taste of curry. The percentage of respondents satisfied and dissatisfied with the availability of preferred fish curry is almost equivalent. Half of the consumers are dissatisfied with the price charged by the hotels. The foregoing analysis indicates that the driving force to consume fish at hotels is a taste of curry.

Table-4
Purchasing Decision among Sample Respondents

Income Group	Purchasing Decision			
	House wife	Wage earner	Domestic help	Others
Rs 3000 Below	-	-	-	-
Rs 3000-4500	14	12	-	04
Rs 4500-6000	28	22	-	09
Rs 6000-7500	07	31	14	07
Rs 7500-10000	05	34	20	11
Rs 10000 Above	04	36	32	14
Total	58	135	56	45

Source: Field Survey

Table 5
Place of Purchase opted by the Respondents

Point of purchase	Low income respondents	Middle income respondents	High income respondents
Vendor	34	29	15
Market with in radius of 1 km	08	12	23
Market beyond 1 km radius	02	04	11

Source: Field Survey

Table-6
Reasons for Eating out at Station and out of Station Hotels

Reasons	At station	Out of station
Favourite dishes are available at a particular hotel	13	15
Unhappy with dishes at home	12	10
To enjoy friends	9	41
Total	34	66

Source: Field Survey

Table-7
Satisfaction Levels with Respect to a few Attributes of Curry

Attributes of curry	Highly Satisfied	Satisfied	No Response	Dissatisfied	Highly Dissatisfied
Taste of curry	25	69	1	4	1
Price of fish curry	8	37	5	35	15
Availability of preferred fish curry	6	32	18	34	10
Total	39	138	24	73	26

Source: Field Survey

Conclusions

The average monthly fish consumption is 2.86 kg per household. Households mainly purchase fish from the wholesale market. Consumers give high importance to price, freshness and grown conditions. The research clearly indicates that fish is a highly appreciated food in all income groups due to its easy availability, affordable price, taste and nutritive value. Consumers with low and middle incomes perceive fish as one of the cheapest forms of adding value to their food intake. It is perceived as the only non-vegetarian food which combines taste, nutrition and easy digestibility as well as affordability. There is high awareness of the various types of fish as well as of the distinctive tastes and values.

The study has pointed out that consumer preferred fish to a great extent in fresh condition. The consumers consume fish mostly on Sundays than the other days of the week. The fish expenditure increased with the increase of income up to income class of Rs. 10,000. The study also reveals fish expenditure dominated the total non-vegetarian expenditure. The majority of the respondents is satisfied with the fish curries available at the hotels. Fish quality perception of fish enables to segment the market into consumer segments. The general observation is consumers tend to be sensitive to price changes in fish, suggesting on internal substitution effect between fish categories. Households consume fish more frequently than red meat and mainly purchase fish from the wholesale market. Consumers give high importance to price, freshness and grown conditions.

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