



Research Article

FISH CONSUMPTION PRACTICES IN NELLORE, ANDHRA PRADESH

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Abstract- A study on fish consumption practices in Nellore, Andhra Pradesh State was undertaken by conducting a survey among the randomly selected three hundred fish consuming households. Information regarding fish consumption expenditure, per capita fish consumption, fish consumption frequency, preferences with reasons for the consumption of particular marine fish varieties, place and forms of fish consumption, fish usage practices were collected, analyzed and presented.

Key words- Fish consumption, consumption expenditure, preference of marine fish varieties

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Introduction

Fish consumption studies investigate how and why society and individuals consume fish and fishery products and how these effect demand and supply relationships. To understand this concept, it may be necessary to study the characteristics of the fish consumers, their values and beliefs, socio-economic characteristics, purchase behavior, consumption pattern and their attitude towards increasing the consumption of fish. The quantity of fish consumed by households is a function of variables such as household income, consumer taste, supply and price of fish and also the supply and price of close substitutes of fish such as meat and poultry. Ghosh *et al.*, (1990) [1] defined consumers as individuals or households who consume goods and services generated within the economy and consumer behavior as the buying habits or patterns of behavior of consuming public either in general or in specific groups. The study of this kind of fish consumption pattern would help to understand the changing consumer behavior and to find out the demand and supply gap, thereby improve the market potential. The specific objectives of the study were:

- To analyze the pattern of fish consumption.
- To find out the place, references and the reasons for the consumption of particular marine fish varieties.
- To study the various forms of fish consumption and fish usage practices.

Material and Methods

The coastal town of Nellore in Nellore District Andhra Pradesh State was purposefully selected for the study. Nellore includes 56 wards and among them 6 wards was randomly selected. The total sample size of fish consuming households was fixed as 300 for the proposed study and 50 households were randomly selected from each ward thus constituting 300 respondents as the sample size. A structured survey schedule was prepared, based on the objectives of the study, and pre-tested by conducting a pilot survey. The respondents were contacted individually and the objectives of the study were explained to them before commencing data collection to ensure their cooperation. Tabular analysis

was followed to analyze the data collected with reference to specific objectives. Statistical measures such as mean, standard deviation, range, co-efficient of variation and percentages were worked out in this study. Garrett's ranking technique was used to identify the preference of marine fish varieties. The order or merits assigned by the respondents were converted into scores by using the Garrett's ranking technique. This method was suggested by Garrett for converting the ranks into scores where the number of items ranked differed from respondent to respondent. The per cent position for each rank was calculated using the following formula.

$$\text{Per cent position} =$$

Where,

R_{ij} = Rank given for it factory by it individual

N_j = Number of factors ranked by it individual

By referring to Garrett's table, the per cent positions estimated were converted into scores. The scores of various respondents were added and the mean values were calculated. The mean values were arranged in descending order. The factors with the highest mean value was considered to be the most important, followed by second, third and soon. The data collection was carried out during the year 2016.

Results and Discussion

The mean total monthly consumption expenditure of non-vegetarian foods items of the respondent households is furnished in [Table-1] The mean consumption expenditure on non – vegetarian foods per month in Nellore was calculated as Rs.624 with the co-efficient of variation (C.V.) of 62.43%. The mean consumption expenditure per family per month ranged from Rs.174 to Rs.948. In Nellore, the man consumption expenditure on fish per month was estimated as Rs.234 with the C.V. of 52.76%. The mean consumption expenditure on fish per month per family varied from Rs.68 to Rs.487. It could be interred from the table that the mean monthly consumption expenditure on fish was higher in Nellore (Rs.324 per month) compared to the expenses on other non-vegetarian foods like chicken, mutton, beef etc.

Table-1 Mean Monthly Consumption Expenditure of Non-Vegetarian Food Items in Nellore (Rs./month)

Mean monthly consumption expenditure					Total mean monthly consumption expenditure on N.V. Items.
Egg	Fish	Chicken	Mutton	Beef	
59.46±	234.60±	171.72±83	174.42±	97.36±4	624.36±296.43
49.38	135.64	24	128.36	3.65	174-948
22-245	68 – 487	110-425	74-428	54-120	47.48
83.05	57.82	65.17	73.59	44.83	

(The values in first, second and third rows indicate mean and S.D., range and C.V. respectively)

Accordingly, to a survey conducted by BOBP in Madras (1991) [2], the average monthly expenditure across all households is the highest on fish followed by mutton, chicken per month. Alternatively, Sekar *et al.*, (1996) [3] conducted a study on fish consumption pattern in Coimbatore City and found that the average fish consumption increases with increase in income. On an average, the urban consumers buy around 4.50 kg of fish per month by spending about 7.5% of their total foods expenditure. The study on consumer preferences and marketing analysis of fish and fishery products in Tamilnadu conducted by Palanisami *et al.*, (2002) [4] revealed that total family expenditure significantly and positively influenced the fish consumption. He found that a 10% increase in additional income, the probability of fish consumption would increase by 11.10%, while the consumption intensity by 12.30% on an average. The frequency of fish consumption of the respondent households is presented in [Table-2]. It could be inferred from the table that amount the total 300 households considered for the survey, 55.33% of the total households consumed fish 3 times in a week, whereas 30.67% of the households used to consume fish 2 times in a week and 14% of the households opted for fish consumption only one time in a week.

Table-2 Frequency of Fish Consumption as Expressed by the Respondent Households in Nellore

Frequency of fish consumption	Number of fish consuming households in the study area						Total fish consuming households
	Ward 1	Ward 11	Ward 21	Ward 31	Ward 41	Ward 51	
3 times a week	27	19	32	23	30	35	166
2 times a week	15	23	15	16	12	11	92
1 time a week	8	8	3	11	8	4	42
Total	50	50	50	50	50	50	300

The per capita fish consumption of the selected respondents is furnished in [Table-3]. In the Nellore, mean per capita fish consumption per month was calculated as 845 grams with the coefficient of variation of 52.38%. The mean per capita fish consumption per month ranged from 290 grams to 1536 grams. Gupta (1981) Indian Institute of Management estimated the per capita fish consumption per month in metropolitan cities, urban and rural areas of India as 470 grams, 560 grams and 350 grams, respectively. The Bay of Bengal

Programme (1991), in its study at Madras estimated the per capita fish consumption as 350 grams per month. Comparing the earlier studies, the mean per capita fish consumption per month was much higher (845 grams) in Nellore according to the present study. Nikita Gopal and Annamalai (2001) opined that the quantity of fish consumed by households is a function of variables such as household income, consumer taste, supply and price of fish and also the supply and price of other close substitutes to fish such as meat and poultry. Freshwater fishes were comparatively less preferred by the respondents with the per capita consumption of 146 grams with C.V. of 42.37%.

Table-3 Per Capital Fish Consumption Pattern (grams/month) in Nellore

Marine Fish	Freshwater fish
845 ± 463	146 ± 85
290 – 1536	72 – 240
54.79	58.22

(Values in first, second & third rows indicate mean and standard deviation, range & C.V., respectively).

A) Preference of Marine Fish Varieties

The preference of marine fish varieties by the respondent households is presented in [Table-4]. The respondents of Nellore were asked to specify the most preferred marine fish varieties by ranking. In Nellore, sardines were the most preferred marine fish varieties by the respondents followed by (in descending order of preference) lethrinids, barracudas, carangids, seer fishes, prawns, red snappers, ribbon fishes, goat fishes, crabs and sharks. The reasons for the preference of specific marine fish varieties were also identified and it could be inferred that the respondents of Nellore had selected sardines as their first choice because of taste, cheaper price, adequate availability and suitability for fish curry and fish fry followed by lethrinids for its taste and adequate availability. Barracudas had been assigned the third rank by the respondents for its taste and adequate availability and also suitability for fish curry and fish fry. Fourth rank was adequate to Carangids by the respondents for its suitability to fish curry. Seer fish has got the fifth rank as the fish is comparatively very expensive, has good taste and most suitable for fish fry. Prawns and Red snappers were assigned sixth and seventh rank for its taste. Ribbon fishes followed by goat fishes were got eighth and ninth rank by the respondents as these were cheaper and most suitable for fish curry. Crabs, preferred by the respondents as an item of delicacy, received tenth rank and finally sharks with eleventh rank for its less taste and price. The preference of place of fish consumption of the respondent households is presented in [Fig-1]. The respondents of Nellore preferred to consume fish at home as it is represented by 41%. It could be inferred that 11% of the respondents of the study area showed willingness to consume fish only at the restaurants. The percentages of respondents who wish to eat fish at mobile stalls alone and both at home and mobile stalls were worked out of 5% and 14%. The percentage of respondent households willing to consume fish at restaurants and mobile stalls was 8%. Only 5% of the respondent households showed willingness for fish consumption at all the three places viz., home, restaurants and mobile stalls.

Table-4 Preference of Marine Fish Varieties in Nellore

Preference of marine fish varieties (N=300)											
Fish species	Sardines	Lerthrinids	Barracudas	Carangids	Seer Fishes	Prawn	Red snappers	Ribbon fishes	Goat fishes	Crabs	Sharks
Sum of Scores	8287	6999	6154	4604	4404	3113	2281	1542	1010	705	283
Frequency of responses	93	89	83	72	75	61	49	37	29	24	15
Mean Score	89.22	78.64	74.14	63.94	58.72	51.03	46.55	41.68	34.83	29.37	18.87
Order of Merit	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Reasons attributed	Taste, cheaper price, abundant availability, suitable for fish curry	Taste, adequate availability	Taste and adequate availability	Suitable for fish curry	Expensive, Taste Suitable for fish fry	Taste	Taste	Lesser price, suitable for fish curry	Lower price, suitable for fish curry	Taste suitable for fish curry	Lower price less taste

B) Fish Consumption Practices

The most frequently consumed form of fish by the respondent households is presented in [Fig-2]. The study revealed that 42% of the selected respondent households considered fish curry as the most consumed form of fish followed by fish fry, as reported by 30% of the respondents. Gupta (1981) in his study about the fish consumption pattern among the sample households in the selected 13 States of India, also endorsed the fact that marine fish was prepared mostly and almost equally as fry and curry for consumption. The next most frequently consumed form of fish by the respondent households was dry fish curry accounting for 14%. Masimin, a fishery by-product produced from tuna fish processed by smoking method was consumed frequently by 9% of the respondent households. Dry fish fry was the less consumed form of fish as it was reported by the respondents of 5% in Nellore. The fish usage and consumption practices by the respondent households are presented in [Table-5]. The study revealed that 52% of the respondents cooked fish immediately after purchase. The percentage of respondents who cooked fish partly after purchase was accounted for 48%. The study also revealed the fish consumption practices of the sample respondent households. The percentage of respondents who consume fish on the first day of preparation was 56%. Alternatively, about 12% of the respondents consumed fish on the next day of preparation after reheating without keeping it in fridge. But 32% of the respondents had the habit of fish consumption on the next day of preparation after keeping it in the fridge.

Table-5 Fish Usage and Consumption Practices in Nellore

	Immediate use	Part use		Total
		Use after reheating without keeping in fridge	Use after keeping it in fridge	
Fish usage practices	152 (52.00)	--	148 (48.00)	300 (100.00)
Fish consumption practices	124 (41.33)	78 (26.00)	98 (32.67)	300 (100.00)

(Figures in parentheses indicate percentages to total)

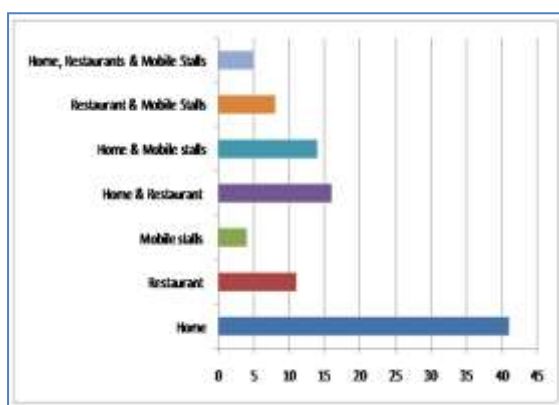


Fig-1 Order of preference of place of Fish Consumption

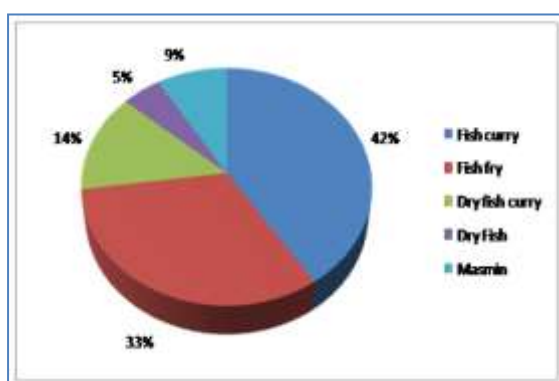


Fig-2 Forms of Fish Consumption

Conclusion

It could be concluded from the study that the marine fish consumption was predominant in Nellore with sardines as the most preferred marine fish variety. Fish curry was the most consumed form of fishery product among the consumers. Awareness and knowledge on the benefits of value added fishery products would help promotion of fish consumption.

Application of research: The focus is to create awareness among the consumers about the fishery product.

Research Category: Fish consumption

Abbreviations:

C.V.: Co-efficient of Variation

SD: Standard Deviation

BOBP: Bay of Bengal Program

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