Fish Consumption Profile of Cochin Households

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Fish forms an integral part of the diet of the non-vegetarian population of Kerala. This paper examines the food consumption profile of selected households in Cochin with reference to different income categories. The average consumption expenditure at mid point of the income classes is more than double the corresponding consumption expenditure for the lowest income group. The total food consumption expenditure tends to plateau off as income increases. The highest four classes of households do not spend more than one-sixth of their income on food consumption. Of the four items of meat, fish, milk and eggs, fish appears to be the most preferred food. The highest three income groups spend almost as much on fish as on staple food. This shows that household income is an important determinant of demand for fish.

Key words: Fish consumption, Cochin, household income

Fish forms a very important source of protein and is an integral part of the diet of non-vegetarian population of Kerala. However, quantity of fish consumed by households is a function of variables such as household income, consumer taste, supply of fish, price of fish and also the supply and price of close substitutes to fish such as meat and poultry products. Fish consumption surveys (BOBP, 1992) constitute an important information input for public policies on marketing, public health and product development. This paper examines the food consumption profile of selected households in Cochin area with a view to brinigng out inter-relations between household consumption of fish and consumption of other food items with reference to different income categories.

Materials and Methods

Food consumption data together with household income data were collected from a sample of 170 households located in different parts of Cochin city (Kerala, India). The households have been classified into eleven income groups and the consumption of different food items have been profiled on the basis of average consumption per household. Food items accounted for in this study are staple food, fish and animal products (meat, milk, eggs)

Results and Discussion

Table 1 presents food consumption profile of households classified into eleven income groups. Mean household expenditure on foods ranged from Rs.27.7 to Rs.108.4 per day among different income groups. At midpoint of income classes (Rs.251-300) average household expenditure on foods was Rs.62. This was more than double the value obtained for lowest income group. Household expenditure on foods increased steadily from Rs.27.7 to 78.3, for income classes <50 to 301-400. Thereafter, it fluctuated between Rs.49.9 and 108.4 (Table 1). Mean per capita expenditure on foods showed a similar trend.

Food consumption expenditure as percentage of income is given in Tab.1. The trend followed Engels' law (Paul & Nordhaus, 1995), which stated that food consumption expenditure as percentage of income, tend to fall as the income increases. Food consumption expenditure was 88% of the income for poorest households. The very next class had a consumption expenditure of only 47% of the income and this class-wise decrease in the percentage continued steadily up to the

Table 1. Family size, per capita expenditure on food, household income and food consumption expenditure

Income class, Rs.	No. of respondents	Average family size	Per capita expenditure on food (Rs./Day) Mean±SD	Household income (Rs./Day) Mean±SD	Household food consumption expenditure (Rs./Day) Mean±SD	Food consumption expenditure as % of income
0-50	19	3	7.83±2.45	31.29±14.63	27.67±16.78	88.41
51-100	28	4	10.02±4.06	81.03±16.70	37.95±16.59	46.83
101-150	27	4	11.30±4.34	131.86±14.32	43.10±11.53	32.68
151-200	29	5	13.49±6.01	179.72±16.55	59.77±20.84	33.26
201-250	7	6	10.95±5.08	230.95±6.30	58.46±36.27	25.31
251-300	23	5	14.86±8.87	278.26±15.44	61.57±29.66	22.13
301-350	16	5	16.26±6.13	333.33±0.00	78.28±37.64	23.48
351-400	3	6	9.30±2.74	388.89±19.25	49.92±22.51	12.84
401-450	2	3	24.36±16.22	433.33±0.00	73.07±48.66	16.86
451-500	10	6	15.09±10.78	496.67±10.54	70.87±27.43	14.27
>500	6	6	18.90±6.49	733.33±101.11	108.43±41.46	14.79

income class of Rs.301-350. Thereafter, it was below 20%. The highest four classes of households not spend more than one-sixth of their income on food consumption.

A notable feature of mean food consumption expenditure for the various income groups was the high standard deviation around mean. Notably, standard deviation representing the inter-family variation in food expenditure for the same income group was relatively lower in the lower income groups than in the higher income groups. This does not mean that there is more homogeneity in the consumption profile of lower income groups. A lower standard deviation can be attributed to income imposed squeeze on consumption on poorer families.

The relationship between income and food expenditure is established through

Table 2. Regression between household income and food consumption expenditure

Multiple R	0.55
R²	0.30
Adjusted R²	0.30
Standard error	25.17
Observations	170.00

regression statistics as shown in Table 2. The linear regression equation derived was $Y = 10.34 + 0.21X$, where Y is household food consumption expenditure and X is the household income. The correlation between income and expenditure was 0.55, reflecting that though the relation between income and expenditure was not very high, it was fairly well established and R^2 value was found to be 0.3. It showed that only 30% of the factors responsible for food consumption expenditure was explained by income. This is highly reasonable since income alone cannot explain household food consumption. Factors such as age distribution of the families, the size of the families, the household's propensity to spend on non-food items such as cloth, housing facilities, entertainment also determine money spent on food consumption. The R^2 value of 0.3 can therefore be treated as a reasonable fit.

Food expenditure has been classified into expenditure on staple food, fish, meat, milk and egg. Expenditure on staple food ranged between Rs.16 and Rs.36 between the lowest and the highest income groups. It is to be noted that this expenditure did not truly reflect the expenditure on food at market prices. Every household draws a part of the food requirement from the public

distribution system. This component of expenditure does not depend upon income because quantity of rationed food like wheat and rice is fixed on the basis of family size and not on the basis of income. Of course, at very low levels of income, households get more subsidy on food in the form of reduced prices on ration rice, thereby meeting a part of the consumption expenditure from government subsidy. The point to be stressed is that expenditure on staple food would have been considerably higher if this component of subsidy was absent. There was a steady increase in the expenditure on staple food consumption. This was Rs.36 for the highest income group and Rs.16 for the lowest income group indicating the rather stable relation between income and staple food. Compared to this, the expenditure on other food items such as fish, meat, milk and egg did not exhibit a pattern. A considerable element of inter class variation was observed in the consumption of these four items.

Of the four items of meat, fish, milk and egg, fish appeared to be the most prefered quality food and egg constituted the least favored as may be seen from Table 3. Even for those households that were in the lowest income group, mean expenditure on fish is Rs.3 per day whereas no class of households

had expenditure on egg exceeding a mean of Rs.2.65. The sample households had therefore a strong preference for fish in comparison to egg.

Expenditure on fish consumption as opposed to that on staple food clearly falls into two patterns. The highest three income groups spent almost as much on fish as on staple food. This showed that household income was an important determinant of demand for fish. Higher the income, higher will be the percentage of the component of fish in the daily diet chart. Clearly, fish product development should aim at capturing the fancy of high income groups if more monetary return per quantity of raw fish is to be realized.

When compared to fish, meat products did not constitute a very significant item of household consumption. Average expenditure on meat exceeded Rs.10 only for the highest three classes of income. It was reported during the survey that fish was consumed in small quantities most of the days while meat was a luxury consumed only on occasions. Therefore, it can be safely asserted that frequency of fish consumption is more than the frequency of meat consumption. This was reflected in the mean

Table 3. Average food consumption expenditure on various items

Income class	Average food consumption expenditure (Rs./day)				
	Fish	Staple food	Meat	Milk	Eggs
0-50	2.93±2.7	16.12±10.16	2.60±3.76	5.63±6.10	0.38±0.41
51-00	10.13±7.80	17.10±7.68	5.26±3.76	4.95±3.98	0.51±0.88
101-150	11.57±7.43	20.39±8.59	4.19±2.82	6.06±4.93	0.88±0.95
151-200	17.14±18.97	23.59±10.67	7.23±4.09	10.42±5.15	1.38±1.19
201-250	15.96±13.12	25.14±16.62	5.26±4.30	10.63±4.98	1.38±1.83
251-300	16.84±27.80	26.88±10.18	6.40±6.79	9.73±8.27	1.72±1.97
301-350	25.13±20.89	27.85±17.02	9.46±6.29	14.42±8.85	1.40±1.83
351-400	11.67±8.33	26.79±14.59	4.29±1.43	6.64±0.56	0.54±0.54
401-450	25.83±27.11	23.50±5.42	10.71±9.09	12.48±7.80	0.54±0.76
451-500	23.16±19.66	25.44±10.72	10.07±10.93	10.44±5.70	1.76±2.18
>500	26.14±19.04	35.57±7.93	23.21±22.57	20.86±11.52	2.65±1.18

consumption pattern of households. Milk consumption in terms of household preference fell midway between fish and meat consumption. As with meat, milk consumption also accounted for less than Rs.21 per household per day showing a very insignificant pattern with reference to income. It appears that the milk consumption is not related to income in any recognizable pattern but depends mostly on the age structure of the household. Larger the number of children, higher was the milk consumption, irrespective of the income.

The study clearly showed that fish occupied a place next only to staple food in the household preferences of the Cochin area. It had shown a positive relation with household income. No other quality food such as meat, milk and egg had such a positive association with income. Fish was the most important source of protein for all classes of population.

References

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