

## A STUDY ON CONSUMER BEHAVIOUR PATTERN IN FISH MARKETING IN BORALANDA / WELIMADA AREA IN SRI LANKA

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### ABSTRACT

*The marketers should monitor current level of and forecast changes in consumer buying power in their own markets because buying power directly affects the type and quantities of goods and services that consumers purchase. This study was undertaken to assess the socio-economic parameters, fish purchase pattern, buying power, and preference to sea fish diet, and thereby analyze the marketing environment for fish in the Boralanda/Welimada area in Sri Lanka.*

*The majority of consumers are categorized under low-income group. The low-income obviously limits the personal expenditure pattern on fish in this area. About 62 per cent of the consumers are irregular fish buyers and make very less frequent fish purchases in the fish market. This situation leads to lower consumer demand for fish. However, majority of the consumer stated higher preference to fish. It was also found that the main socio-economic factors influencing the fish purchase pattern are household income, family size, education level, and consumer's preference to sea fish. Apart from that, fish availability and prices have mild/insignificant effect on purchase pattern. Therefore, it is concluded that consumer income level, education level and family size play a significant role in the consumer's fish buying behaviour.*

*It is concluded that the buying behaviour of fish is not unique unlike buying behaviour of other consumables. Nevertheless the socio-economic environment of the consumers is still doubtful for the marketing of fish in the study area since these factors specially, income levels and education levels limit the purchase of high priced fishes very often. However a segment of consumers with higher income and educational and occupation pattern (Professional) could be targeted for a niche market with high quality fish in study area. Creating consumer awareness on fish consumption through education, establishing better fish stalls with modern cold storage facilities at fish market, and ensuring the proper and regular supply of fish would create a favourable environment for fish marketing in the area.*

**Key words:** marketing environment, purchasing power, socio-economic parameters, consumer demand, buying behaviour.



**Table 4: Drinking water standards (WHO standards)**

Toxic Elements	Highest Desirable limit (ppm)	Maximum Permissible limit (ppm)	No. of sample exceeding Permissible limits
Zn	5.00	15.00	nil
Fe	0.05	1.50	nil
Pb	-----	0.05	one

metal from the site such as welding works, tinkering and black smithing. The amount of lead present in the water sample taken from roadside (S2) was also high. Motor vehicles exhausts may be the reason for this higher value.

### CONCLUSIONS

Higher values of nitrate, phosphate and potassium concentration in the ground water from wells beneath irrigated agricultural soils suggest that the leaching of the applied plant nutrients to the soil had polluted the ground water. The build up of nitrate, phosphate and potassium in the ground water could be controlled by adopting appropriate agricultural practices such as use of slow release fertilizers, incorporation of green manure and educating the farmers on appropriate fertilizer management.

The assessment of trace element revealed that the lead concentration has almost reached the maximum permissible limit proposed by World Health Organization (WHO). Further accumulation of lead over a long period would create serious problem. Concentration of iron and zinc are virtually within the maximum permissible limit.

From this study it is recommended that further investigation should be carried out by considering saline water intrusion due to heavy pumping of ground water, leaching of nitrates, phosphate and potassium with different land use pattern and also due consideration must be given to main sources of heavy metals, which are a potential threat to human health.

### ACKNOWLEDGEMENTS

This research was supported by the Department of Chemistry, Eastern University, Sri Lanka.

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(MS accepted 15 September 2001)



## INTRODUCTION

Society, which constitutes the socio-economic environment, is one of the major components in the marketing environment. This includes all of the individuals that make up population of a country and their characteristics and values. As members of society people seek many different goods and services that will enrich their lives. Also, society would consist of different group of people. Marketers who target these groups may find this strategy rewarding, and firms that ignore them may miss an excellent opportunity. Further successful marketers should know that every changing consumer attitude or lifestyle leads to a market opportunity (Skinner, 1997). Economic environments are those forces in the economy such as consumer buying power, personal disposable income, consumer spending pattern, and the business cycle that influence organization's abilities to compete and consumer's willingness and ability to purchase goods and services.

A person's buying power is his or her ability to make purchases. It depends on the extent of the person's resources (goods, services, and financial holdings) and the state of the economy. Economic conditions affect the buying power to a great extent. The major financial resources that make up buying power are income, credit and wealth (Skinner, 1997). A product's share of the consumer expenditure and customer's sensitivity to changes of its price is directly proportional. Also, consumers in developing countries are considered to be spending in excess of 50% of their disposable income on food (Crawford, 1997).

Marketers need to analyze consumer's buying power, because it has a tremendous impact on consumer's reactions to firm's marketing strategies. They should also monitor current level of and forecast changes in consumer buying power in their own markets because buying power directly affects the type and quantities of goods and services that consumers purchase. However, just because consumers have buying power does not ensure that they will buy; they must also be willing to use their buying power. Analysis of purchasing behaviour help marketers gain both a perspective and a background for marketing decision making.

This study was undertaken with the specific objectives of assessing the socio-economic parameters of the consumers, their purchasing pattern and preference on fish, and the significance of the fish purchase behaviour on fish marketing in the Boralanda/Welimada area of the Badulla district in Sri Lanka.

## METHODOLOGY

A survey method was employed to collect the data using a structured questionnaire among randomly selected thirty households in the study area. For this study, ten households were randomly selected from each Grama Niladari (GN) division, which focused on households residing within walking distance around the town. The table 1 explains how the samples were derived from each GN division. The primary data were supplemented by the information gathered from secondary sources as well.

**Table 1: Selection of Sample respondents**

<b>Grama Niladari Division (GN)</b>	<b>No of Households</b>	<b>Households Surveyed</b>
Division-01	107	10
Division-02	113	10
Division-03	96	10
<b>Total</b>	<b>316</b>	<b>30</b>

The following variables were considered important for analysis and interpretation. They are monthly income of the household, education level, family size, regularity in fish purchase, frequency/number of fish purchase events per month, amount/quantity of fish purchased in one purchase, availability of fish at shops/market, price of fish, and consumer preference to fish. The fish purchase pattern was identified in terms of regularity, frequency, and quantity of fish purchased in a month while the socio-economic environment was characterized in terms of household income, family size, education level and preference.

## **RESULTS AND DISCUSSION**

### **A. Socio-economic Parameters of the Consumers**

Age distribution of the consumers ranged from 2 years to 87 years with the mean age of 26.12 years. The total population in the sample was 126 members from 29 households. Among the surveyed population 44.3% were youngsters of age less than 20 years and 49.1% were adults with the age category of 21-60 years. Only 6.6% were the unproductive elders in the population. From 29 households surveyed the average family size was 4.34 and ranged up to a maximum of 6 members. Majority of the family (62.1%) had more than four members in the family. Hence the food requirements for the family are always higher since many members occupy the family. Obviously large-sized family structures create substantial demand for food and other commodities in the market (Skinner, 1997).

Education level of the consumers is important when considering the consumer's perception on food and nutrition requirements. In fact educated people will much consider the essential nutrition requirements in buying their food items. In this study the majority (87.6%) of the consumers were up to secondary school educated whereas only 12.4% had exposed to higher or professional education. Moreover, education level and type of occupation showed a clear relationship. Thus about half of the surveyed consumer households were farmers or minor employees while 36.8% were employed as teachers or technicians or clerks or similar jobs. A few were categorized as professionals engaged in professional jobs such as engineers, physicians, lecturers, accountants, and managers in public or private organizations. Based on the education and occupation pattern the family-spending pattern changes and creates different purchasing abilities for fish in the market.

Income is another crucial factor, which is assumed to influence the consumer-buying pattern and power. It was found that about 51.7% of the consumer in the study were low-income holders whose monthly income was less than Rs.4000/= as their family



income while 48.3% were higher income holders. High-income category consumers can hypothetically have higher purchasing power (Consumer Finance and Socio-economic Survey, 1998). However, the family sizes do also influence their purchasing pattern. The total monthly family income varied from Rs.1200 to Rs.12000 with the average monthly household income of Rs. 4713.21

### B. Fish Purchasing Pattern of the Consumers

Fish purchasing pattern of the consumers was identified by means of regularity of buying, frequency or number of fish buying events in a month, and the amount of fish purchased in a month. Regularity of fish purchase was examined by asking the household head whether he/she purchases fish regularly (monthly or weekly). Consumer's regularity on fish purchase would enable the fish sale outlets to continually order and deliver fish from the fish wholesalers and distributors thus keep the marketing channel continually functional. Nevertheless, fish marketers could use the regular fish consumer as their long-term customers to their business. In the study it was found that majority (62.1%) were non-regular consumers while only one third were the regular fish consumers. Hence fish marketing in the study area was not steady and certain and it was an uncertain marketing environment because of varying and irregular buying pattern of fish.

Frequencies or the number of fish buying events in the previous month were taken into consideration. Table 2 shows the frequency of fish buying pattern in a month. Thus 20.7% never purchased fish from either Boralandamarket or other places during the previous month. Only 13.8% stated thrice a month purchase. This shows very less frequency of fish buying pattern by the consumer. In fact 65.5% consumers purchased sea/fresh fish less than twice a month, which is a very low number of fish buying events.

**Table 2: Frequency of fish purchase events**

Frequency of fish purchase events	Households	Percentage
Never (00)	6	20.7
Once a month (01)	13	44.8
Twice a month (02)	6	20.7
Thrice a month (03)	4	13.8

When considering the quantities of fish purchased in the previous month they varied from 0.25kg to 2kg with the average amount of 0.8kg per month. Table 3 depicts the amount of fish purchased in the previous month as stated by the surveyed consumers. According to the table 3, 91.7% of consumers had purchased less than 1.5kg per month while only 8.3% purchased more than 2Kg. This claims that the total quantity of fish demanded by the consumer does not exceed 2kg very often. The study further proves that the per capita consumption of fresh or sea fish was considerably low in the study area. The reason for this, according to the consumer's statements, the availability of dry fish is higher when compared to the availability of fresh and sea fish. Availability of dry fish was at any time contingent to the consumer rather than

going for the fresh fish. The next reason is that prices of dry fish are comparatively low and affordable by the ordinary households. According to the fish traders and consumers in the study area, prices were dependent on the breeds and usually varied from Rs.100/kg to 250/kg. Small fishes had an average price of Rs.120/kg and large fishes received an average price of Rs.180/Kg. Indeed, two third of the respondents stated that fish prices were very high (more than Rs.120/kg) and not affordable to buy.

**Table 3: Quantity of fish purchased**

Amount of fish purchased (kg/month)	Households	Percentage
0.25 – 0.50	1	4.2
0.50 – 1.00	10	41.7
1.00 – 1.50	11	45.8
2.00 and More	2	8.3

The availability of fish was a problem for the consumer in the study area. From the personal discussion held with fish traders, it was found that the fish wholesale distributors visit the town only twice a week and therefore, fresh sea fish was not available all the time. Sometime, fish traders kept the fish in refrigerators for 2-3 days and sold them until the next visit of wholesale distributors. On the other hand according to the traders, if there was a substantial demand for fish from consumers they were ready to order and deliver more fish to the market at any cost. So the basic constraint arises from the consumer's purchase pattern and preference to sea/fresh fish. However, in the case of fresh water fish it was available most of the time since it was caught from the near by lakes and brought by local people.

### C. The Impact of Socio-economic Parameters on the Buying Pattern of Fish.

The Table 4 shows the effect of different socio-economic parameters on the fish-buying pattern of the consumers in the study area.

**Table 4: Effect of Socio-economic Parameters on Fish Buying Pattern**

Indicators of fish buying pattern	Socio economic factors	X <sup>2</sup> value	Level of significance
Frequency of fish purchase	Income Level	14.246	0.000*
	Family size	2.084	0.049*
	Education Level	15.721	0.000*
	Preference	2.541	0.110
	Price levels	2.14	0.143
	Availability	1.177	0.555
Regularity of fish purchase	Income Level	6.428	0.011*
	Family size	2.714	0.156
	Education Level	14.39	0.001*
	Preference	0.117	0.732
	Availability	1.493	0.474
Quantity of fish purchased	Income Level	1.309	0.253
	Family size	17.018	0.001*
	Education Level	6.545	0.038*
	Preference	1.091	0.296
	Price levels	0.273	0.602
	Availability	0.727	0.695

\* Significance at  $P < 0.05$ .



The fish-buying pattern of consumers, which is characterized by the frequency, regularity and quantity of purchase, was influenced by various factors of which socio economic factors were considered important in this study (Table 4). Socio-economic aspects considered in this study were family income, family size, education and occupation pattern, and preference. In addition to the socio economic factors, fish prices, availability and quality considerations also influenced the purchase pattern to a great extent.

Total family income was found closely related to the frequency of fish purchase. Hence income level would be considered as an important determinant that affects the buying pattern of fish. Table 5 describes the relationship between the family income group and the frequency of fish purchase made by respective income group of consumers.

**Table 5: Relationship between the family income group and the frequency of fish purchase**

Income Category	Frequency of Fish Purchase	
	Less frequent Purchase (Less than twice a month)	More frequent Purchase (More than twice a month)
Low Income Group (below Rs.4000/Month)	14 (100%)	00
Higher Income Group (above Rs. 4000/Month)	5 (33.3%)	10 (66.7%)

(Chi-square=14.24, P<0.01)

(Given in parentheses are row percentages)

According to table 5, all the low-income group consumers were less frequent purchasers while the majority (66.7%) of the higher income group consumers were very frequent buyers. Thus the study reveals the significant impact of income on consumer's fish buying pattern.

Though it is assumed that large family size would require very frequent fish purchase, the study disproves it. The relationship between the family size and the frequency of fish purchases was not significant at 0.05 level of probability. Hence, bigger family size does not create very frequent purchases significantly. This may be a distributed due to lower per capita family income shared among family members.

The education level and occupation of the consumers is one of the socio-economic environments that affect the purchasing pattern of commodities. In this study too, it was found that the education and occupation pattern significantly affected the fish-buying pattern of the consumers. Thus, All the primarily educated consumers were less-frequent buyers whereas all the highly educated professional consumers were high-frequent buyers.

Fish prices had less impact on purchase pattern. Increased prices led to lower purchase frequencies and quantities. There was a close relationship between fish prices and frequency of fish purchase (table 6). About 69% of the consumers stated that low price led to higher frequent purchases and vice versa.

**Table 6: Relationship between fish prices and frequency of fish purchase**

Price Levels	Frequency of Fish Purchases	
	Less frequent purchases (Less than twice a month)	More frequent purchases (More than twice a month)
Low prices (Below Rs.120/Kg)	5 (31.3%)	11 (68.8%)
Higher prices (Above Rs.120/Kg)	5 (62.5%)	3 (37.5%)

(Chi-square 2.14, P&lt;0.143)

(Given in parentheses are row percentages)

Fish availability did not have a significant impact on fish buying pattern in the study although it is supposed to have an impact. Fish buying frequency seems to be low during both the highly available time and less available periods. However only 33% of the consumers showed higher buying frequency during the high supply periods.

Regularity of fish purchase was another indicator that determined the fish-purchasing pattern; Regular consumers created a substantial sustainable demand for fish in Boralandia area. Regularity of fish purchase was also supposed to be influenced by socio-economic factors such as income level, family size, education level and prices. The table 7 describes the relationship between income group and regularity in fish buying by respective income groups.

**Table 7: Relationship between income group and regularity in fish purchase**

Income Category	Regularity of Fish Purchase	
	Regular buyer	Non-regular buyer
Low income group (Below Rs.4000/Month)	2 (14.3%)	12 (85.7%)
Higher income group (Above Rs. 4000/Month)	9 (60.0%)	6 (40.0%)

(Chi-square=6.42, P&lt;0.011)

(Given in parentheses are row percentages)

According to the Table 7, majority of the low-income group consumers (85.7%) were irregular buyers while 60% of the higher income group consumers were regular fish buyers who exerted a steady demand for fish in a regular basis.

Regularity in fish buying pattern was also significantly influenced by the education level of the buyers where all the primary-educated consumers were irregular buyers while highly educated consumers purchased fish in a regular basis. Consumer's family size and fish availability at the town market and shops did not have any major impact on the regularity in purchase. Regular customers are always regular irrespective of the family size and the availability, according to the fish traders in the study area.

The quantity of fish purchased, which is another indicator of the fish purchase pattern was influenced mainly by family size and income level of the consumers. Other socio-economic factors such as age composition, education level and availability did not have any impact on the amount of fish purchased. Moreover, lack of quantitative data