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A CASE STUDY ON KANYAKUMARI DISTRICT USING AIDS MODEL

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1. Study region

The physical, technical and socio-economic characteristics of a region will strongly influence the consumption pattern of the households. So a clear knowledge about these characteristics of the study region is essential to have a thorough understanding of the consumption pattern, which in turn will facilitate in making suitable conclusion and policy implications. In view of this, a brief account of these characteristics of the study region is presented in this section.

People of this district give top priority for education. There is nearly cent percent literacy and it stands first in literacy rate in the entire Tamilnadu state. There are totally 23 colleges and 885 schools promoting primary and secondary education.

This district is an industrially backward one. It has no major industry except Indian Rare Earths Ltd., Manavalakurichi; Kanniya Spinning Mill, Aralvoimozly; Nagarmmal Mills, Nagercoil and Tapco coir industry, Ammandivilai. It has also 11,194 small industries and 7,573 cottage industries.The population of this district is 16,69,763 of which 8,29,542 are males and 8,40,221 are females according to the latest reports. Density of population is 992 per sq.km. It has 13,20,564 literates with literacy rate 84 percent. The number of workers of this district is 4,64,087 of which 3,95,041 are males and 69,046 are females. The birth rate is 73.4 whereas the death rate is 6.6. The expectation of life at birth is 64.85 for males and 65.2 for females.

The fair price shops supply necessary commodities like rice, wheat, sugar and kerosene to families at subsidized rates. There are totally 551 fair price shops in this district of which 133 are located in Agasteeswaramtaluk and 185 in Kalkulamtaluk. A total of 4,40,222 families benefit by this scheme of which 1,79,615 are in rural areas and 2,60,607 are in urban areas. In the case of rice and sugar, for each commodity, irrespective of region, the same price is maintained. That is, for each commodity, price discrimination is not made region-wise. But in the case of other commodities, discriminated price is made region-wise for each commodity. There are 1,399 nutritious meal centres throughout the district supplying one nutritious meal per day to 2,17,829 beneficiaries. There are 3,729 women development centres in this district and 69,523 women benefit from the same.

Residents of the study region belonging to different caste are classified into four categories scheduled caste/ scheduled Tribe (SC/ST), Most Backward class (MBC), Backward class (BC) and Forward class (FC) in accordance with the Tamilnadu state Government norms. Caste of the household refers to the caste to which the head of the household belongs. The number and percentage of households belonging to the four categories in the four socio-economic regions are listed below.

Region	SC/ST		MBC		BC		FC	
	Sample	Population	Sample	Population	Sample	Population	Sample	Population
Thovalai	4 (4.44)	349 (4.42)	9 (10.00)	799 (10.12)	47 (52.22)	4094 (51.88)	30 (33.34)	2650 (33.58
Nalloor	4 (5.55)	285 (5.52)	25 (34.92)	1800 (34.80)	41 (56.94)	2944 (56.92)	2 (2.77)	143 (2.76)
Boothapandi	7 (8.64)	377 (8.63)	7 (8.64)	378 (8.65)	44 (54.32)	2374 (54.30)	23 (28.39)	1243 (28.42)
Midalam	7 (8.14)	193 (8.30)	6 (6.98)	163 (7.01)	54 (62.79)	1449 (62.60)	19 (22.09)	518 (22.29)

Table 1 Caste-wise distribution of the respondents
Note: Figure in the parenthesis gives the corresponding percentages

The distribution of the respondents community-wise shows that BC is more than 50 percent in all the regions. Next to this, FC dominates in the Thovalai, semi-urban and Boothapandi, MBC in Nalloor and SC/ST very little (less than 10 percent) in all the areas.

Though there are many religions in India, the respondents of the study region practice the three religions namely Hinduism, Christianity and Islam. Each household is assigned the religion practiced by the head of the household. The distribution of Hindus, Christians and Muslims is presented below region-wise.

Region	Hindus		Christians		Muslims	
	Sample	Population	Sample	Population	Sample	Population
Thovalai	43 (47.78)	3769 (47.76)	39 (43.33)	3421 (43.35)	8 (8.89)	702 (8.89)
Nalloor	23 (31.95)	1654 (31.98)	33 (45.83)	2369 (45.80)	16 (22.22)	1149 (22.22)
Boothapandi	71 (87.65)	3831 (87.63)	10 (12.35)	541 (12.35)	0 (0.00)	0 (0.00)
Midalam	59 (68.60)	1589 (68.40)	27 (31.40)	734 (31.60)	0 (0.00)	0 (0.00)

Total	**196 (59.57)**		**109 (33.14)**		**24 (7.29)**	

Table 2 religion-wise distribution of Respondents

Note: Figure in the parenthesis gives the corresponding percentage

The distribution of respondents religion-wise shows that Hindus dominate in the Boothapandi, Christians occupy the second place with Muslims counting nil. In the Thovalai, Hindus occupy the first place, Christians have a close race with nearly 43 percent and Muslims have a meager share of only 9 percent. In the Nalloor, though the Christians dominate. Hindus and Muslims have a notable share.

Educational status refers to the minimum number of years required to reach a particular educational level or to obtain any degree / diploma. It is a discrete variable taking values 0,1,2,3…… The following table depicts the mean and standard deviation (S.D) of the educational status of the head of the household in the four socio-economic regions.

Region	**Mean**	**S.D**
Thovalai	13.15	4.28
Nalloor	8.25	5.31
Boothapandi	10.78	4.05
Midalam	7.93	4.61

Table 3 Mean and S.D of Educational status

Regarding the education level, Thovalai tops the list with an average of 13 years, as there are many schools and colleges in the town. Since the Boothapandi area is located closer to the capital town, students have a better chance to have their education and it comes next with an average of 11 years approximately. In the Nalloor, many parents do not encourage their children to go to school, but they make their children undertake in fishing activities. In the villages too, many parents allow their children to go for work just for monetary benefits as they find it difficult to bear the educational expense of their children after primary education.

Age is conceptualized as the total number of years of life completed by a person at the time of interview. The mean and standard deviation of the age of the head of the household in the four socio-economic regions are tabulated below.

Region	**Mean**	**S.D**
Thovalai	51.86	11.44
Nalloor	47.87	11.09
Boothapandi	50.18	11.99
Midalam	51.66	11.49

Table 4 mean and S.D of Age

As far as age of the head of the household is concerned, there is more or less a uniform distribution in all the four regions with a average of nearly 50 years and a standard deviation of 11 years.

The head of the households are classified into two groups according to their gender as males and females. The numbers of percentage of heads of the households in both the groups are presented below region-wise.

Region	**Males**		**Females**	
	Sample	**Population**	**Sample**	**Population**
Thovalai	84 (93.33)	7380 (93.52)	6 (6.67)	512 (6.48)
Nalloor	65 (90.28)	4612 (89.18)	7 (9.72)	560 (10.82)
Boothapandi	76 (93.83)	4064 (92.95)	5 (6.17)	308 (7.05)
Midalam	78 (90.70)	2107 (90.70)	8 (9.30)	216 (9.3)
Total	**303 (92.09)**		**26 (7.09)**	

Table 5 Region-wise distribution of Gender

Note: Figure in the parenthesis gives the corresponding percentages
Males dominate as heads of households in all the four regions. More than 91 percent are males in Thovalai, Boothapandi, Midalam and just 90 percent of males in Nalloor.

Under this characteristic, the heads of the households are divided into two groups namely, married and unmarried. Divorcee and widows are also included in the unmarried category. The following table gives the number and percentage of heads of households in the two categories region-wise.

Region	**Married**		**Unmarried**	
	Sample	**Population**	**Sample**	**Population**
Thovalai	82 (91.11)	7189 (91.09)	8 (8.89)	703 (8.91)
Nalloor	61 (84.72)	4320 (85.52)	11 (15.28)	852 (14.48)
Boothapandi	72 (88.89)	3886 (88.89)	9 (11.11)	487 (11.11)
Midalam	72 (83.72)	1943 (83.65)	14 (16.28)	380 (16.35)
Total	**287 (87.23)**		**42 (12.77)**	

Table 6 Region wise distribution of Marital status

Note: Figure in the parenthesis gives he corresponding percentages

As far as marital status is concerned, more than 84 percent of the heads of households are married with a maximum of 91 percent in Thovalai.

This characteristic is a qualitative variable, which measures the intensity of the exposure of the head of the household to mass media It is assigned the value ‘t’ (t = 0,1,2,3,4,5,6) according as the head of the household possesses ‘t’ of the following 6 qualities.

(i) Viewer of educative T.V. programmes

(ii) Listener of educative radio programmes
(iii) Reader of newspapers
(iv) Reader of magazines / journals
(v) Reader of general books
(vi) Any other such as participant in educational oriented debates / discussions.

The mean and standard derivation of this variable is tabulated below for the four socio-economic regions.

Region	**Mean**	**S.D**
Thovalai	2.94	1.15
Nalloor	1.94	1.39
Boothapandi	2.50	1.30
Midalam	1.98	1.23

Table 7 Mean & S.D of mass media Exposure

The mass media exposure of the respondents is very low with an average ranging from 2 to 3 which is an indicator of lack of awareness of the people of this locality about the happenings in the world. This may be due to lack of motivation together with the hilly area with heavy physical work in the Nalloor and Midalam whereas tight schedule of work might be the reasons for the same inThovalai and Boothapandi area.

Any member of a household contributing to the income of the household through some job is counted as an earning member.

The mean and standard deviation of this variable are tabulated below in accordance with the region.

Region	**Mean**	**S.D**
Thovalai	1.53	0.67
Nalloor	1.79	1.03
Boothapandi	1.63	0.82
Midalam	1.73	0.78

Table 8 Mean of S.D of Number of Earning members of the household

The average number of earning members of the household ranges from 1.5 to 1.8 nearly. Though there is not much difference in the average, Nalloor tops the list and Midalam is placed in the second position. This is mainly due to the fact that many members of the family including children are forced to go form work to fulfill their needs, as the family size is usually high in these areas.

Disposable income of a household is considered as the monthly income through all sources such as income though primary and secondary jobs of all earning members of the household, income derived from agricultural assets, live-stocks, machinery assets, land assets and financial assets after excluding tax payments, loan repayments, interest and insurance payments.

The mean and standard deviation of the disposable income of households in the four socio-economic regions are presented below.

Region	(a) Mean Rs.	(b) S.D Rs.
Thovalai	11815.82	8798.10
Nalloor	7445.11	6192.68
Boothapandi	7022.54	6159.88
Midalam	5925.77	4909.44

Table 9 Mean & S.D. of Disposable income

The distribution of disposable income shows that Thovalai has the highest average of Rs. 11816 and Midalam with the least average of Rs. 5926. The high values of standard deviation indicate that there is large variation of disposable income among households in all the four regions.

Assets of a household include house and household assets, land assets, machinery assets, financial assets, livestock etc. All the assets were converted into the money value prevailed at the time of interview and the total money value of the assets was computed.

The mean and standard deviation of the value of assets of the households are tabulated below for the four socio-economic regions. Table 10

Region	(c) Mean Rs.	(d) S.D Rs.
Thovalai	1631036.74	2076092.82
Nalloor	795937.08	1624233.21
Boothapandi	616132.97	763150.47
Midalam	633302.27	814380.98

Table 10 Mean & S.D. of the value of assets

The distribution of assets shows that Thovalai has the highest average and the remaining three regions have averages closer to each other which is less than 50 percent value of the Thovalai. For all the four regions, standard deviation is higher than the average indicating the high variation in the variable.

Under this characteristic, households are classified as vegetarians and non-vegetarians. The number and percentage of households in the above two categories are tabulated below in accordance with the region.

Region	Non-vegetarian		Vegetarian	
	Sample	Population	Sample	Population
Thovalai	74 (82.22)	6479 (82.10)	16 (17.78)	1413 (17.9)
Nalloor	72 (100.00)	5172 (100.00)	0 (0.00)	0 (0.00)
Boothapandi	71 (87.65)	3809 (87.12)	10 (12.35)	563 (12.88)
Midalam	82	2205	4	118

	(95.35)	(94.93)	(4.65)	(5.07)
Total	**299 (90.88)**		**30 (9.12)**	

Table 11 Region wise distribution of Nature of food

Note: Figure in the parenthesis gives the corresponding percentage
Non-Vegetarians dominate in all the four regions, Nalloor tops the list with cent percent non-vegetarians and Midalam occupies the second place with 95 percent. In the Boothapandi and Thovalai there are only 12 percent and 18 percent of vegetarians respectively.

2. Results of functional Analysis

Expenditure System- Econometric results

The structural parameter estimates are of interest largely for technical comparisons, as number of estimated parameters of AIDS is statistically significant. The statistical significance of these Coefficients suggest that demand of food and non food items are responsible for prices, the total expenditure level and house hold size (TesfayeTelku et. Al (1988).

A. Food items

Here we attempt to produce a complete set of food demand parameters on an experimental basis. Two demand systems such as the Almost Ideal Demand System (AIDS) and multinomial Linear Logit model (MLLM) are estimated using a single cross section survey. The estimates are used to highlight food demand structure in the four different socio-economic regions, to show their utility for policy analysis and to evaluate the empirical performance of the two demand systems. In addition, the estimates are positioned relative to other studies in selected Asian countries

Linear version of the AIDS and MLLM are used to estimate the food demand systems for the four groups viz

(i) A group of 72 house holds in Midalam
(ii) A group of 86 house holds in Thovalai.
(iii) A group of 82 house holds in Boothapandi.
(iv) A group of 90 house holds in Nalloor.

The AIDS model allows an evaluation of the compatibility of the estimated system with the restrictions from the individual consumer demand theory. It is among the most flexible of the currently available demand system models, permitting a wide range of tests of consumer preferences. The MLLM satisfies non-negativity and Engel aggregation properties of consumer demand theory. In addition homogeneity and symmetry restrictions can be imposed by applying linear restrictions on the system parameter. Parameter estimates based on these two demand models for all the four groups are presented to provide users with alternative sets of information and a basis on which to compare their empirical performance. Information from the survey sections on household food expenditure and demographic characteristics was utilized for the estimation of the two demand system. Seven food commodity groups viz: (i) Rice, (ii) Pulses and other Cereals (iii) Spices and condiments (iv) Fish (v) Meat and meat products (vi) Vegetables (vii). Fruits (viii) Milk and Milk products. (ix) Oil and (x). Sugar and jaggers all other consumable items were used taking into consideration the traditional consumption pattern and government policy priorities. Household expenditure on each group was the money value of the food purchased used from inventory or received as transfers during the survey period.

Total food expenditure, the sum of expenditures on all these food groups, was used as a measure of income variable in the food demand system. Household expenditure on each food group as a fraction of total food expenditure was calculated as household-specific food budget shares.

No market prices were available on the survey data. Price indexes for these ten food groups were computed at the district level. District level implicit prices were constructed for individual commodities in each food group. The prices in each group were then geometrically weighted using

district level mean value shares. Implicitly households in a district were assumed to face similar district level price indexes. Household size, the only demographic variable, was simply defined as the number of persons in a household.

The linear AIDS and MLLM were estimated with the additive error term e_t. For the AIDS, the average food budget shares were linearly related to composite food price; real per capita food expenditure and house hold size. In the case of MLLM, the logarithm of the ratio of budgets were related to food group with a sample average budget share of 20 percent was used as a numerate in estimating the MLLM.

The additive error term (e_t) for each equation in both systems were assumed to be $e_t \sim N(0, \sigma^2 I)$. A Contemporaneous Covariance $V(e) = \Sigma\theta\tau$ was used recognizing that the specifications are in fact approximations and that food expenditure at each household level are interrelated.

The models were estimated with adding up homogeneity and symmetry restrictions imposed. In the case of MLLM these restrictions were imposed locally at sample mean budget shares. In order to get efficient estimators, parameter estimates from the more aggregate commodity level were used to restrict the estimates at the disaggregate level. To ensure that the covariance matrix was non-singular ten budget equations were estimated. The miscellaneous food group was deleted in the AIDS estimation, but the same was used to normalize food budget shares in MLLM. An interactive seemingly unrelated regression was applied to estimate the structural parameters.

The MLLM parameters measure the relative budget share responses to changes in food prices, total food expenditure and household size. But from the form of the equation, it is evident that the individual structural parameters for the MLLM cannot be used directly to evaluate and interpret responses to the conditioning variables on food demands. In order to compare the results of the two demands system, they are converted to estimated elasticities.

Midalam

Estimated parameters based on AIDS for major food groups in the 4 selected regions are presented in Table 12

Table 12: Parameter estimates based on Almost Ideal Demand System for major Food groups in the Midalam Households

Variables	Rice	Pulses and Other	Oil	Milk and milk products	Fish	Meat and meat products	Fruits	Vegetables	Spices and condiments	Sugar and
Intercept	0.6215 (1.810)	-0.0842 (1.462)	0.0411 (0.3812)	-0.8123 (2.5210)	-0.0210 (0.318)	0.025 (0.289)	0.3014 (1.816)	-0.0162 (0.416)	-0.0152 (0.318)	0.0512 (0.489)
A. Price variables Rice	0.1523 (1.913)	0.046 (1.218)	-0.0016 (1.556)	0.0612 (0.986)	0.0261 (1.108)	0.0162 (2.350)	-0.0509 (1.615)	0.0261 (0.8952)	0.0161 (0.8862)	-0.0462 (1.5561)
Pulses and Other Cereals	0.0415 (0.682)	0.0104 (1.9651)	-0.0015 (0.0213)	0.0014 (0.0683)	0.0051 (1.001)	-0.0182 (0.614)	-0.046 (0.512)	0.0110 (0.4285)	-0.0125 (0.8164)	-0.0562 (0.7151)
Oil	0.0146 (0.156)	0.0588 (0.170)	-0.0134 (0.3416)	0.0314 (0.512)	0.0062 (0.216)	-0.1008 (2.6152)	-0.0314 (0.582)	-0.1007 (2.840)	0.0642 (1.5162)	0.0001 (0.0023)
Milk and	0.1718 (2.130)	0.0136 (0.628)	-0.0462 (2.001)	0.0068 (0.1142)	0.0280	-0.412 (0.221)	-0.004 (0.612)	-0.0246 (1.1154)	-0.0041 (0.0466)	-0.0056 (0.0812)

Milk products					(1.1461)					
Fish	-0.0881 (1.030)	0.0054 (0.221)	0.0214 (0.618)	0.0312 (0.511)	0.0071 (0.4812)	0.1056 (2.416)	-0.0412 (0.0618)	0.1053 (2.614)	-0.184 (0.532)	0.0110 (0.386)
Meat and meat Products	0.0028 (0.071)	-0.0371 (2.615)	-0.0051 (0.453)	-0.0040 (0.120)	0.0121 (1.1142)	-0.0210 (1.800)	0.0168 (0.684)	-0.0211 (1.4621)	0.0182 (1.413)	0.0131 (1.1142)
Fruits	0.0217 (1.156)	-0.022 (2.591)	0.0014 (0.156)	-0.0218 (1.1014)	-0.0022 (0.295)	-0.0203 (2.990)	0.020 (3.581)	-0.0203 (2.990)	0.0115 (1.482)	0.0025 (0.416)
Vegetables	-0.091 (1.001)	0.0415 (1.583)	0.0217 (0.684)	0.0369 (0.516)	0.1046 (2.613)	0.1053 (3.720)	-0.0142 (0.364)	0.0015 (0.051)	-0.0114 (0.562)	0.0110 (0.448)
Spices and Condiments	-0.0081 (0.614)	-0.0085 (1.001)	0.0071 (0.684)	0.0056 (0.642)	0.0088 (0.614)	0.0008 (0.718)	-0.0088 (1.0057)	0.0008 (0.774)	0.1014 (2.416)	0.013 (1.184)
Sugar and Jaggery	-0.0002 (0.488)	0.0132 (0.0334)	0.0251 (0.551)	0.152 (0.086)	0.0042 (1.1421)	0.0614 (2.516)	0.0058 (1.1142)	0.0614 (2.884)	0.0041 (0.425)	0.0224 (0.886)
Beverages	-0.002 (0.018)	-0.0280 (1.723)	0.0263 (1.564)	-0.0148 (0.327)	0.0034 (0.216)	0.0613 (2.781)	-0.0061 (0.282)	0.613 (2.690)	0.0021 (0.0489)	0.025 (1.618)
Narcotics	-0.0002 (0.020)	-0.0008 (0.180)	-0.114 (2.156)	-0.0044 (0.316)	-0.0026 (0.521)	-0.0174 (2.789)	-0.008 (0.1101)	-0.0028 (1.964)	-0.0011 (0.221)	-0.0058 (1.426)
Clothing	-0.0120 (1.100)	0.0146 (2.624)	0.0043 (1.463)	0.0221 (2.114)	-0.0063 (2.164)	-0.442 (1.999)	0.0042 (1.647)	-0.4061 (1.648)	-0.0131 (3.542)	-0.0091 (2.430)
Fuel and Lighting	-0.7214 (2.684)	0.2335 (3.147)	-0.0010 (0.013)	0.2881 (1.250)	-0.0778 (1.140)	0.1435 (1.7612)	-0.0592 (0.381)	0.1435 (1.801)	-0.0312 (0.446)	0.0188 (0.334)
Transport and Electricity	-0.0145 (1.170)	0.0021 (0.762)	-0.0042 (1.1412)	-0.0034 (0.286)	-0.008 (0.224)	-0.0081 (0.216)	0.3461 (0.421)	-0.0026 (0.814)	0.0042 (1.1147)	-0.0001 (0.0023)
Cosmetics	-0.0467 (2.112)	-0.0027 (0.446)	-0.0065 (1.0107)	0.0046 (1.337)	0.0051 (0.264)	-0.0026 (0.862)	-0.0123 (1.1462)	-0.0026 (0.916)	-0.024 (2.225)	-0.0011 (0.334)
Education	-0.0174 (1.623)	-0.0034 (1.124)	-0.0061 (2.224)	0.0042 (0.546)	-0.001 (0.042)	-0.0044 (1.164)	-0.0016 (0.342)	0.0046 (0.716)	0.0061 (1.984)	0.0024 (1.004)
Medical	-0.187 (1.417)	0.0018 (0.724)	-0.0004 (1.181)	0.0004 (0.088)	-0.0031 (1.080)	0.0018 (0.443)	0.0008 (0.400)	0.0017 (0.663)	-0.0048 (1.1167)	0.0008 (0.028)
Social and Religious	0.0174 (1.228)	-0.0091 (2.429)	0.0045 (1.230)	-0.0154 (1.350)	-0.0026 (1.427)	-0.0042 (1.227)	-0.0117 (1.614)	-0.0046 (1.178)	0.0042 (1.142)	0.0034 (1.1112)

Recreation	0.0127 (1.2461)	-0.0050 (1.346)	0.0005 (0.514)	-0.0016 (0.187)	0.0007 (0.251)	-0.0049 (1.338)	0.0012 (0.203)	-0.0046 (1.443)	-0.0142 (2.916)	-0.0081 (2.827)
B. Total Expenditure	0.0552 (1.921)	0.0029 (3.692)	0.0221 (2.750)	0.192 (2.340)	0.027 (3.830)	0.0010 (0.227)	0.002 (0.016)	0.0010 (0.227)	0.0010 (0.120)	-0.0041 (0.6021)
C. House hold Size	-0.0645 (1.993)	-0.0109 (1.180)	-0.6321 (1.340)	-0.0682 (2.280)	-0.0365 (4.216)	-0.004 (0.044)	-0.0133 (0.689)	-0.0365 (1.573)	-0.0248 (2.240)	-0.0054 (2.278)
D. R^2	0.787	0.731	0.812	0.843	0.768	0.797	0.824	0.843	0.872	0.791

Note: Figure in the parenthesis represent the corresponding standard Error values

The expenditure Coefficient is significant for the commodities pulses and other cereals, fish, oil, milk and milk products and rice for the Midalam village panchayat households. This shows that the expenditure share on pulses and other cereals, Fish, oil, milk and milk products and rice will increase with an increase in real income (total expenditure) with prices held constant. The expenditure coefficients for all the commodities are positive except for sugar and jaggery. The nature of the demand for food and non-food commodities could be directly inferred from the signs of the AIDS parameters. Commodities with negative expenditure parameters are income inelastic and those with positive parameters are income elastic. Thus for this group of households sugar and jaggery are income inelastic and all other commodities are elastic. The household size coefficient is negative for all the commodities and significant for the commodities rice, milk and milk products, fish, spices and condiments and sugar and jaggery. Thus the expenditure share on these items would decrease with the increase in the household size, reflecting economics of scale and the larger household may get unit price reductions as they purchase lumpsum quantities.

The price coefficient of meat and meat products alone is negative and significant in the rice equation for this group. Thus the increase in prices of this commodity will decrease the expenditure share on rice. Similar arguments hold for the significant Coefficients in the other commodity share equations. For example the expenditure share equation for fish shows that the expenditure on meat and meat products reduces the expenditure share on fish. It is same process for Nalloor, Boothapandi and thovalai

Key observations

In general, the people in the village panchayat increase their expenditure share on rice, oil, vegetables, milk and milk products, while in the town panchayats they increase their expenditure share on fish, cereals, fruits, milk and milk products with an increase in the real income. Thus irrespective of town or village both are consistent in increasing their expenditure share on vegetables, milk and milk products with an increase in real income. It leads to the conclusion that people intend to spend more on protein rich foods. Moreover the village panchayat households are more sensitive to even little changes in real income and household size. It might be due to that fact that the marginal utility of money is high for them.

B. Non-Food items

Midalam

Estimated parameters for major non-food items are presented from

Table 13: Parameter estimates based on Almost Ideal Demand System for major Non-Food Groups in the Midalam Households

Variables	Beverages	Narcotics	Clothing	Fuel and lighting	Transport and electricit	Cosmetics	Education	Medical	Social and Religions	Recreation
Intercept	0.1033 (0.310)	0.1290 (0.700)	0.3148 (0.680)	0.1192 (0.350)	0.1280 (0.610)	0.050 (0.510)	-0.0546 (0.320)	0.1625 (1.416)	0.0366 (0.587)	0.0145 (0.200)
A. Price variables Rice	-0.0129 (0.220)	-0.0033 (0.200)	-0.1611 (1.500)	0.0044 (0.750)	0.0149 (0.300)	0.0084 (0.850)	0.0457 (1.450)	-0.0526 (2.75)	0.0116 (1.140)	-0.0577 (2.150)
Pulses and Other Cereals	-0.0174 (0.400)	0.0185 (0.850)	-0.1119 (1.690)	0.0031 (0.790)	0.0144 (0.450)	0.0067 (1.030)	-0.0285 (1.1350)	0.0228 (1.798)	0.0067 (1.000)	0.0026 (0.150)
Oil	0.0622 (0.640)	-0.0538 (1.100)	0.3351 (2.060)	-0.0161 (1.600)	-0.0513 (0.650)	-0.0298 (1.850)	0.0182 (0.350)	-0.0534 (1.710)	-0.132 (0.800)	-0.0868 (1.980)
Milk and Milk Products	0.0655 (0.825)	-0.0488 (1.450)	-0.0588 (0.500)	-0.0130 (1.900)	-0.0021 (0.050)	0.0079 (0.750)	-0.0078 (0.200)	-0.0495 (2.280)	0.0053 (0.460)	-0.0009 (0.690)
Fish	0.0888 (1.150)	0.0223 (0.570)	-0.2656 (2.040)	0.0087 (1.120)	0.0329 (0.500)	0.0087 (0.690)	-0.0996 (2.410)	0.0238 (0.900)	0.0073 (0.550)	0.0690 (1.970)
Meat and Meat Products	-0.0294 (0.850)	-0.0187 (1.150)	0.0391 (0.750)	-0.0029 (0.950)	0.0235 (0.900)	-0.0021 (0.410)	0.0214 (1.250)	-0.0034 (0.330)	0.0015 (0.290)	-0.0145 (0.010)
Fruits	0.0018 (0.100)	-0.0220 (2.340)	0.0015 (0.500)	-0.0026 (1.430)	-0.0077 (0.500)	-0.004 (0.150)	0.0179 (0.700)	-0.0044 (0.750)	-0.0008 (0.260)	-0.0101 (1.200)
Vegetables	-0.0829 (1.765)	0.0044 (0.190)	0.0285 (0.350)	-0.0014 (0.330)	0.0024 (0.050)	0.0026 (0.350)	0.0089 (0.380)	0.0074 (0.520)	0.0015 (0.200)	0.0642 (3.180)
Spices and Condiments	-0.0326 (1.000)	-0.0126 (0.950)	0.0165 (0.400)	-0.0023 (0.910)	-0.0131 (0.500)	0.0013 (0.330)	-0.0168 (1.630)	0.0195 (2.375)	-0.0037 (0.870)	0.0163 (0.720)

Sugar and Jaggery	0.0827 (1.520)	0.0054 (0.210)	-0.1692 (2.000)	0.0016 (0.300)	0.0530 (1.330)	0.0037 (0.462)	-0.0168 (1.620)	0.0256 (1.550)	-0.0098 (1.100)	0.0163 (0.720)
Beverages	-0.0247 (0.500)	0.0167 (0.750)	-0.0735 (0.950)	0.0082 (1.800)	-0.0028 (0.050)	0.0073 (0.950)	-0.0197 (0.850)	0.0092 (0.650)	0.0013 (0.180)	0.0454 (2.210)
Narcotics	0.0257 (1.850)	-0.0379 (5.500)	0.0279 (1.250)	-0.0007 (0.600)	0.0090 (0.650)	-0.0009 (0.440)	0.0096 (1.540)	-0.0053 (1.220)	-0.0021 (0.950)	0.0062 (1.020)
Clothing	-0.289 (2.200)	-0.0076 (1.500)	0.0743 (4.700)	0.0002 (0.200)	-0.0143 (1.850)	0.0047 (3.00)	0.1264 (2.530)	-0.0017 (1.570)	-0.0021 (1.360)	-0.0127 (3.010)
Fuel and Lighting	0.1552 (0.700)	0.0627 (0.550)	-0.3604 (0.990)	0.012 (1.560)	0.1122 (0.640)	-0.0135 (0.350)	0.0527 (0.450)	-0.0176 (0.250)	-0.0068 (0.180)	-0.0588 (0.600)
Transport and Electricity	-0.0129 (1.230)	-0.0051 (0.950)	0.0005 (0.030)	-0.0009 (0.850)	0.0783 (0.950)	-0.0046 (2.710)	-0.0025 (0.450)	-0.0090 (2.722)	-0.0034 (1.960)	-0.0119 (2.560)
Cosmetics	0.0148 (0.750)	0.0147 (1.650)	0.0600 (2.100)	0.0007 (0.440)	0.0043 (0.310)	0.0254 (3.650)	0.0018 (0.180)	0.0021 (0.350)	-0.0075 (2.450)	-0.0034 (0.340)
Education	0.0085 (1.100)	-0.0040 (0.950)	0.9285 (2.100)	-0.0011 (1.330)	-0.0063 (0.950)	-0.0034 (2.530)	0.0211 (4.770)	-0.0067 (2.530)	-0.0025 (1.770)	-0.0071 (1.890)
Medical	-0.0014 (0.160)	-0.0008 (0.190)	0.0095 (0.600)	-0.0004 (0.500)	-0.0114 (1.600)	-0.0013 (0.850)	0.0008 (0.10)	0.0316 (10.420)	-0.0013 (0.810)	0.0084 (1.980)
Social and Religious	0.0250 (2.290)	-0.0030 (0.550)	-0.0387 (2.130)	-0.0002 (0.230)	0.0074 (0.850)	0.005 (0.003)	-0.0035 (0.600)	-0.0055 (1.590)	0.0304 (10.350)	0.0024 (0.530)
Recreation	-0.0090 (0.900)	0.0040 (0.800)	0.0095 (0.600)	-0.0005	-0.0157 (2.030)	-0.0010	0.0029 (0.570)	0.0106 (3.390)	-0.0003 (0.220)	0.0456 (10.35)

				(0.058)		(0.500)				
B. Total Expenditure	-0.0586 (2.426)	-0.0012 (0.100)	-0.185 (2.00)	0.0010 (0.432)	-0.0557 (2.030)	-0.002 (0.600)	-0.0048 (0.340)	0.0004 (0.059)	0.0027 (0.660)	-0.0258 (2.380)
C. Household Size	0.04198 (1.400)	0.0122 (0.850)	0.0444 (0.950)	-0.0003 (0.130)	-0.0754 (2.970)	0.0062 (1.350)	0.0269 (1.78)	0.0153 (1.690)	0.0003 (0.080)	0.0371 (2.920)
D. R^2	0.82	0.87	0.85	0.71	0.93	0.88	0.80	0.91	0.95	0.92

Note: Figure in the parenthesis represent the corresponding standard Error values

The expenditure coefficients on beverages, recreation, clothing, transport and electricity are negative and significant for the households in Midalam.

The negative coefficients indicate that this group have not yet attained a level of comfortable food security and any increase in income will make then to go in for sufficient quantity of food items and they will be prepared to spend the surplus on items such as clothing, recreation better transport and electricity, which can be classified as comforts in the village panchayats. Thus the expenditure share on these commodities will increase only beyond a certain level of income of these house holds. The household size coefficient on recreations is positive and significant. It indicates that any increase in household size requires higher budget share on recreations for this households.

The price coefficients of oil, clothing, cosmetics and education are positive and significant whereas sugar, fish and social and religious activities are negative and significant in the clothing share equation. Hence any increase in the prices of oil, clothing and education will increase the budget share on clothing for this group. The narcotics share equation shows that increase in the prices of narcotics will cut down their expenditure share on narcotics. Any percentage change in the prices of clothing and social and religious activities significantly affect the expenditure share on beverage. The budget share on transport and electricity will increase with the increase in the price of transport and electricity, only transport and electricity have become comfort cum necessity. The expenditure on fuel and light is not affected by any of the commodity prices. The price coefficients on clothing, cosmetics, education, transports and electricity are significant in the cosmetics share equation. Hence the expenditure share on cosmetics will be influenced by the prices of these commodities.

The expenditure share on education will increase with an increase in the cost of education and reduction in the prices of Fish and clothing. The price coefficients on rice, milk, education and transports and electricity are negative and significant but spices and condiments is positive and significant in the medical share equation. The price co-efficient on social and religious activities is positive and highly significant in own share equation but the price coefficients of cosmetics, services, transport and electricity are negative and significant. It implies that the social compulsion and environment make people not to reduce the expenditure even in the event of high cost of social and religious activities. It can be justified in a highly tradition bound societies such as India. The increase in the prices on rice, clothing, recreation, transport and electricity, will reduce the expenditure share on recreation for this group. The decrease in the prices of pulses, beverages, fish, medical and social and religious activities will have the opposite effect.

In all the non-food share equations except the beverage, fuel and light, own price co-efficient is highly significant. Except recreation and narcotics, all of them are positive.It is same for nalloor, Boothapandi, Thovalai

Key observations

The expenditure and household size coefficients show that people in the village panchayats increase their expenditure on services by the increase of real income and size of household. The people in the town panchayat increase their expenditure share on education with an increase in real income and household size. Since most of the town panchayat people send their children to better schools, it leads to more expenditure. In both village and town panchayats, the expenditure on non-food items increases with an increase by its own price as urban people enjoy consumption of non-foods over a long period of time and are to a certain degree, considered relative necessities.

Derivation of Expenditure and own price Elasticities, based on the AIDS

Expenditure Elasticities

The expenditure elasticities based on AIDS for expenditure groups are given in table . It could be seen from the table that the expenditure elasticities for rice in the two village panchayats are 1.241 and 1.121 respectively. The results confirm to the demand theory that the expenditure elasticity (income elasticity) for the basic necessities decline at the higher income levels in the Town panchayats.

Table 14: Expenditure Elasticities derived from AIDS

Commodity	Midalam	Baoothapandi	Nalloor	Thovalai
A. Food groups				
Rice	1.241	1.121	0.956	0.695
Pulses and Cereals	1.074	1.035	0.652	0.107
Vegetables	1.486	1.673	1.426	1.742
Oil	1.028	0.893	1.167	0.905
Milk and Milk Products	1.537	2.147	2.242	2.658
Spices and Condiments	1.022	1.088	1.200	1.133
Fish	1.335	1.577	1.067	1.048
Fruits	1.020	2.648	1.397	2.146
Meat and Meat Products	1.019	1.527	1.100	0.923
Sugar and Jaggery	0.884	1.367	1.367	1.091
B. Non-Food groups				
Beverages	-0.622	-0.259	3.380	1.046
Narcotics	0.971	0.567	0.420	0.948
Clothing	0.751	1.033	1.061	1.117
Fuel and light	1.122	1.521	1.455	2.626
Transport and electricity	0.196	1.332	0.290	1.121
Cosmetics	0.989	1.114	0.851	1.647
Education	0.520	1.222	0.990	2.024
Medicine	1.018	0.988	1.534	1.179
Social and religious	1.129	1.059	2.597	1.267
Recreation	0.015	0.384	0.735	1.260

In the case of the village panchayats the expenditure elasticities are consistently higher than their counter parts in town panchayats for rice. As could be expected, the expenditure elasticity for rice is elastic for both the groups in the village panchayats. It is inelastic for both the town panchayat groups. This followed the Engel's law of household consumption. Similar trend is observed for pulses and other cereals. It shows the prevalence of cereal consumption in villages are more than the urban. It is a remarkable and expected result and the expenditure elasticity is as low as 0.107 for the town panchayat, implying that their group prefer higher quality pulses and cereals and better quality food items. In

general vegetables are expenditure elastic for all the groups. These elasticities are higher in Town when compared with the village in both the sets. This fact may be due to the awareness shown by the town panchayat people on the nutritive value of vegetables. The elasticities for milk and milk product are higher for all the groups. It indicates the importance given by all the categories for milk and milk products. The positive impact of well organized supply system of milk through operation flood programme might have recognized by the policy makers in the evolution of policies relating to milk Industry. The elasticities for spices and condiments are elastic and almost same for all the groups. But the average value of budget share on spices and condiments is more in the town panchayats. The fish expenditure elasticity is elastic in all the groups. It is also high in the town panchayat. The average budget share on fish is uniform in all the four groups. The expenditure elasticity for fruits is elastic in all the four groups. It is very high is both the town panchayats than the village panchayats. This shows the importance given by the urban people for fruits.

The elasticity on meat and meat products is nearer to unity for the Thovalai town Panchayat. The inelastic nature of sugar for the village panchayats shows that they are not increasing their expenditure on sugar as the income increases. It might he due to the fact that their needs are met by subsidy sugar and palm jaggery and diabetics. In general income elasticities for most of the food items in all the groups are positive and elastic. This implies that an increase in household income leads to an increase in household expenditure on each and every item. The expenditure elasticity on beverages is negative in both the village panchayats and it is very high (3.380) for the town panchayats in Nalloor. The expenditure elasticity on narcotics is inelastic. The expenditure elasticity on clothing is inelastic for the Midalam village panchayat since it is a necessity for that group. For all the other groups it is elastic, might be they are highly conscious in the use of good dresses.

The expenditure elasticities on fuel and light are elastic for all the groups. The urban groups tend to use more of fuel and light as their income increases and in the case of rural, this might be due to the availability of substitutes for fuel. Transport and electricity are expenditure inelastic in the rural (village) and it is expenditure elastic in urban (Town) showing higher demand for transport and electricity. As could be expected, cosmetics and education are inelastic among the rural and elastic in the urban. The expenditure on medical item is elastic in rural and this might be due to the non availability of proper public health in the rural. For the social and religious expenses, it is elastic for all the groups.

Own price elasticities

The direct price elasticities are also computed at the mean level and given in Table 4.4.2. The own price elasticities of the village panchayats are numerically larger as compared to town panchayats. This is mainly because of the fact that this group devotes their major Portion of their budget to rice. Any increase in rice price has a strong income effect and reduces the intake of rice in this group. The direct price response is high in the Town panchayat than the rural for pulses and other cereals and it needs some explanation. In this category, the town panchayat people consume mainly wheat but the village panchayat people take more of pulses and cereals and the subsidy wheat. Hence any rise in the price of wheat will shift the consumption of wheat mainly in the town panchayat. The own price elasticity on vegetable is rather mixing in the different groups. It is high in one Town panchayat and in one village panchayat. That is changes in the prices of vegetables have real income effect for this groups. There is much responsiveness for the change in the price of oil on the part of village panchayat groups on both the places.

Table 15: Own Price elasticities based on AIDS for village and Town Panchayats

	Midalam	**Boothpandi**	**Nalloor**	**Thovalai**

B. Non-Food groups				
Beverages	-1.624	-0.997	-0.897	-1.024
Narcotics	-0.081	0.086	-0.238	-0.283
Clothing	0.020	-0.215	-0.740	-0.984
Fuel and light	0.411	0.216	-1.079	-0.266
Transport and electricity	0.169	-0.843	-0.017	-0.103
Cosmetics	-0.076	-0.418	-0.334	0.649
Education	-1.125	-0.901	1.000	1.163
Medicine	-0.881	-0.057	0.069	0.241
Social and religious	0.452	-0.359	-0.240	-0.492
Recreation	0.769	0.227	-0.571	-0.651
A. Food groups				
Rice	-0.443	-0.326	-0.262	-0.593
Pulses and Cereals	-0.387	-0.611	-0.225	-0.670
Vegetables	-0.697	-0.381	-0.125	-0.925
Oil	-1.039	-0.988	-0.696	0.415
Milk and Milk Products	-0.882	-0.470	-1.340	0.558
Spices and Condiments	-0.416	-0.939	-1.114	-0.150
Fish	-0.809	0.392	-0.654	-0.662
Fruits	0.653	-2.006	-0.642	-0.706
Meat and Meat Products	-1.360	-1.117	-0.905	-2.041
Sugar and Jaggery	-0.645	-0.473	-0.240	-2.079

For milk and milk products the direct price elasticity is positive in the town panchayat groups and however it is inelastic. The direct price elasticities for spices and condiments and meat and meat products followed the law of demand. The demand for sugar and Jaggery has negative relationships with price for all the groups. The own price elasticity is positive only in the village panchayatMidalam because of their less demand for clothing. The direct price elasticity for fuel and light is positive in both the village panchayats, however the coefficients are small. It might be due to the supply of substitutes for fuel and lighting. The cost of education has no-effects on the town panchayats, since these groups are prepared to invest on education by sending their
wards to private institutions for social reasons even at high incremental cost. In the study area in both the village panchayats, the main source of recreation is T.V and Cinema. Even though there is rise in cinema fare, it has no effect on these groups. For the other groups recreation include items viz, reading materials, picnics etc. and they respond to price changes.

Subsidy effects on household food expenditure

Average value of consumption expenditure in food subsidy schemes, such as Public Distribution System (PDS) including Rs 1 rice and Noon Meal Scheme (NMS) were analysed and presented for all the four groups presented in Table 4.5.1. It could be seen that the value of food subsidy is Rs.146.06 for Midalam and 160.26 for Boothapandi and declines in town panchayats.

Table 16: Average value of consumption expenditure per household through PDS and NMS (in Rs)

Commodity	**Village Panchayats**		**Town Panchayats**	
	Midalam	**Boothapandi**	**Nalloor**	**Thovalai**

A.Total Food Subsidy through PDS				
Rice	146.06 (22.06)	160.26 (25.11)	81.70 (100.00)	82.24 (100.00)
Pulses and other Cereals(Wheat)	59.72 (9.02)	69.82 (10.94)	0.0 (0.0)	0.0 (0.0)
Oil	38.74 (5.85)	36.94 (5.79)	45.24 (55.37)	40.72 (49.51)
Sugar	33.50 (5.06)	34.06 (5.34)	15.46 (18.92)	20.52 (25.54)
	14.10 (2.13)	19.44 (3.04)	21.00 (25.71)	21.00 (25.54)
B. Food subside Through NMS	515.92 (77.94)	478.08 (74.89)	0.0 (0.0)	0.0 (0.0)
C. Total food subsidy	661.98 (100.00)	638.34 (100.00)	81.70 (100.00)	82.24 (100.00)

- Values in the parenthesis are expressed in percentage

It is 81.70 for Nalloor and 82.24 for Thovalai. The food subsidy realized from NMS is 515.92 and 478.08 for the two village panchayats and is zero in town panchayats. The total food subsidy declines from village to town panchayats.

The budget share on total food subsidy, PDS and NMS to the total food expenditure are presented in Table

Table 17: Share of food subsidy to the total food expenditure

Commodity	**Village Panchayats**		**Town Panchayats**	
	Midalam	**Boothapandi**	**Nalloor**	**Thovalai**
A.Total Food Subsidy through PDS	42.27	42.38	12.85	12.89
Rice	43.53	44.51	15.53	11.85
Pulses and other cereals(Wheat)	51.42	58.74	15.66	17.09
Oil	25.18	24.82	5.22	7.36
Sugar	23.81	22.63	16.89	14.42
B. Food subside Through NMS	43.33	39.75	2.65	3.14
C. Total food subsidy	68.75	65.41	5.82	6.15

The percentage of total food subsidy, to the total food expenditure is decreasing from village panchayat to town panchayat. This is in agreement with the findings of INIGO Mary Jennet (2005). The additional (panchayat) point here is that Rs. 1 rice scheme has lessened their burden on rice expenditure.

In general both the PDS and NMS have helped the poor people to increase their food consumption level. Hence these subsidy schemes if strengthened with added Nutritional level will reduce the malnutrition and alleviate poverty among the vulnerable and weaker sections of the people in this area of study.

Results of MLLM analysis

The MLLM parameters measure the relative budget share responses to changes in food prices, total food expenditure and household size. But from the form of the equation it is evident that the individual structural parameters for the MLLM cannot be used directly to evaluate and interpret responses to the conditioning variable on food demands. In order to compare the results of the two demand system, they are converted to estimated elasticities.

Midalam

The parameters estimated through the MLLM for the 72 households in Midalam village panchayat are presented.

	Intercept	**Rice**	**Pulse and other Cereals**	**Oil**	**Milk and milk products**	**Fish**	**Meat and meat products**	**Fruits**	**Vegetables**	**Spices and condiments**	**Sugar and Jaggery**
$\ln(w_1/w_{11})$	0.66 (1.72)	0.55 (1.862)	-0.016 (0.32)	-0.14 (0.44)	-0.25 (2.146)	0.35 (2.12)	0.12 (3.61)	-0.16 (1.71)	-0.085 (0.92)	-0.06 (0.86)	-0.15 (0.75)
$\ln(w_2/w_{11})$	-0.16 (1.46)	0.18 (2.65)	0.01 (0.31)	-0.24 (2.57)	0.12 (1.65)	0.28 (2.67)	0.01 (0.31)	-0.02 (0.13)	-0.11 (0.78)	0.15 (2.76)	-0.06 (0.53)
$\ln(w_3/w_{11})$	-0.08 (0.80)	0.10 (1.56)	-0.15 (0.87)	0.02 (1.65)	0.15 (2.65)	0.38 (1.99)	0.11 (1.99)	1.11 (2.16)	-0.01 (1.34)	-0.03 (3.17)	-0.01 (1.35)
$\ln(w_4/w_{11})$	0.12 (1.17)	0.21 (2.87)	-0.04 (2.17)	0.08 (2.76)	0.07 (2.19)	0.12 (2.67)	0.07 (2.19)	-0.01 (0.44)	0.01 (3.12)	-0.06 (2.16)	-0.03 (1.96)
$\ln(w_5/w_{11})$	0.07 (0.52)	0.09 (1.03)	0.01 (0.221)	-0.02 (0.618)	0.03 (0.51)	0.01 (0.48)	0.10 (2.41)	-0.04 (0.06)	-0.10 (2.61)	-0.18 (0.53)	0.01 (0.38)
$\ln(w_6/w_{11})$	0.03 (0.28)	0.01 (0.07)	-0.03 (2.6)	-0.01 (0.45)	-0.00 (0.12)	0.02 (1.11)	0.02 (1.8)	-0.02 (0.68)	-0.02 (1.4)	0.02 (1.4)	0.01 (1.4)
$\ln(w_7/w_{11})$	0.09 (0.72)	0.02 (1.15)	-0.02 (2.59)	0.00 (0.15)	-0.02 (1.26)	0.00 (0.29)	0.02 (2.8)	0.02 (3.5)	-0.02 (2.9)	0.02 (1.5)	0.00 (1.11)
$\ln(w_8/w_{11})$	0.04 (0.78)	0.00 (0.61)	-0.00 (1.0)	0.00 (0.68)	0.01 (0.64)	0.00 (0.61)	0.00 (0.71)	0.01 (1.00)	0.00 (0.74)	0.10 (2.15)	0.01 (1.18)
$\ln(w_9/w_{11})$	0.02 (0.82)	0.00 (0.65)	0.01 (0.13)	0.00 (0.55)	0.01 (0.08)	0.00 (1.14)	0.05 (2.5)	0.00 (1.11)	0.06 (2.8)	0.00 (0.55)	0.02 (0.76)
$\ln(w_{10}/w_{11})$	0.06 (0.66)	0.04 (0.38)	-0.21 (3.57)	-0.06 (1.11)	-0.04 (2.38)	0.08 (2.11)	0.07 (2.11)	0.04 (4.2)	0.00 (1.72)	0.44 (1.96)	0.37 (2.12)

able 18: Parameter estimates based on Multinomial Linear Logit Model for Midalam

R-square = 0.63^{**}

w_1 –Budget share of Rice

w_6 - Budget share of Meat and Meat products

w_2 - Budget share of Pulse and Other Cereals

w_3 - Budget share of Oil

w_4 - Budget share of Milk and Milk product

w_5 - Budget share of Fish

w_7 - Budget share of Fruits

w_8 - Budget share of Vegetables

w_9 - Budget share of Spices and condiments

w_{10} - Budget share of Sugar and Jaggery

w_{11} - Total consumption expenditure

$\frac{w_i}{w_{11}}$, i=1,2, ... 10 gives the relative budget share of the i^{th} commodity and it lies between 0 and 1.

Note: Figure in the parenthesis gives the standard error of the corresponding **regression coefficient**

* Significant at five percent level of probability

** Significant at one percent level of probability

Table 19:

Mean Food budget shares

Expenditure and household size elasticities based on MLLM models for Midalam Multinomial Linear LogitModel[MLLM]

Food Groups	**Food Expenditure Elasticity e_{if}**	**Total Expenditure Elasticity e_{iv}**	**Household size Elasticity e_{is}**
Rice	0.30	0.60	0.58
Pulses and other cereals	1.11	0.95	-0.18
Oil	1.01	0.90	-0.25
Milk and Milk Products	1.46	0.65	-0.10
Fish	0.50	0.10	0.30
Meat and Meat Products	0.62	0.45	0.25
Fruits	1.15	0.80	-0.30
Vegetables	1.45	0.85	-0.45
Spices and Condiments	1.10	0.80	-0.60

Sugar and Jaggers	1.05	0.55	-0.65

The significance of the estimates indicates that the food demands are responsive to prices and the total food expenditure level of the household size. As it is seen from table that $g_{ii}>0$ for all the 10 commodity groups; all the own price responses are price inelastic. That is, whatever be the price changes in it, its consumption is not affected by its own price in all the commodity groups. Also table shows that rice is price inelastic with respect to remaining commodity groups. Fish is price inelastic with respect to the remaining commodity groups. Similar is the case with meat and meat products. This shows that rice, fish, meat and meat products are staple food for this group. The expenditure share on fish is very high. This is natural since the people in the western side take fish for almost 7 days (both dry and wet) and once in a while on festivals they go in for meat and meat products. Since Midalam is surrounded by hill and ponds they consume fresh water fish also.

The commodities pulses, vegetables, oil, fruits, spices and condiments are mostly price elastic. This shows that when there is an increase in price in rice, fish, milk and milk products, these people are ready to sacrifice the share on the vegetarian commodities. This is an indication of the Non-vegetarian habit on all days in the Kanyakumari District. Being a rural area, people might cultivate vegetables, pulses, fruits etc and that might be reason of seeing the flexibility in the expenditure.

Since the estimated elasticities for rice, fish and meat as shown in table is less than one it ascertains that these three are staple food for this section of people. All other groups have estimated elasticities greater than unity indicating the fact that they are highly responsive to price changes. Moreover, it is clear from the signs of the estimated elasticities that the household size has positive effect for staple foods and negative effect for the remaining under MLLM, whereas it has positive effect for rice and negative for the remaining under AIDS. The estimated elasticities indicate that as the household size increases, major share for the expenditure is allotted for the staple foods.

When we compare the results from AIDS and MLLM for most of the commodity groups uncompensated own price elasticities are negative under AIDS and MLLM. The absolute value of own price elasticity is very small for rice and less than one for all the commodity groups except for pulses, vegetables, fruits under both the models. Hence in this locality rice is least responsive to change in its own price. We can also do the same for Boothapandi, Thovalai, nalloor

3. Conclusion:

The present study endeavours to investigate the household consumption pattern in the southern most part of the South East Asia, Kanyakumari District, which was originally with the Travancore Cochin State (now known as Kerala) and at present with Tamilnadu. The study was carried out in the period 2005-2006. The main objectives of the study are to analyse the food and non-food consumption pattern in the household living in village and Town panchayats. To study the influence of the commodity price, total expenditure and household size on the consumption by employing the two advanced econometric models AIDS and MLLM, which formed the basis to derive the own price and expenditure elasticities. The study also aimed to briefly examine the effect of food subsidy and rice for Rs. 1 scheme in the consumption pattern of the households in the study region.

The study examined house holds in one village panchayat in the western end of this district with 72 households and one town panchayat in the west with 86 households and also in the Eastern end of this district with 81 households in the village panchayat and 90 households in the Town panchayat. The needed information was collected from the selected households in all the four panchayats with the help of a pre-tested questionnaire by the researcher himself directly.

After organising the data, the consumption pattern of households were analysed. In order to study the demand system as a whole, comprising all consumption items, food and non-food, a consumer expenditure system is estimated. For this purpose, the study reviewed the most commonly used demand systems, viz; Linear expenditure system, Extension of linear expenditure system, Liviation model,

Almost Ideal Demand System and the Multilinear logit model with merits and demerits. Among the available demand models, the Almost Ideal Demand System and the Multilinear logit models were applied in the present study because these are the two flexible of the currently available demand systems for the taste of consumers preferences. Moreover they permit fairly simple interpretation of the estimated coefficients. In addition, the analysis is extended to examine the influence of food subsidies and the Rs 1 rice scheme on the food consumption pattern in the village and town panchayats in the Eastern border and Western border of the Kanyakumari District. A simple model of consumption income relationship using food subsidy and Rs 1 rice as two explanatory variables is estimated.

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