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Rural-Urban Consumption Patterns In Bangladesh

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The study attempts to analyze the consumption patterns in Bangladesh, over the years of 1973 to 2005 based on secondary data. It also attempts to show the patterns and trends of income, expenditure and consumption expenditure. Bangladesh achieved growth in consumption though some differences in the levels and patterns of consumption which have been observed between the rural and urban areas over the years. The paper therefore attempts to illustrate the distinctive nature of different consumption patterns among different socio-economic groups in Bangladesh.

Key Words: *Consumption, Consumption patterns, Consumption inequality, Consumption expenditure, rural-urban discrepancy ratio, socio-economic groups, Elasaticities.*

1. Introduction

Consumption is the total expenditure by households on goods and services over a given period of time. The level of consumption depends upon some factors like the level of disposable income, marginal propensity to consume (MPC), marginal propensity to save (MPS), wealth, rate of inflation, rate of interest, availability of credit, expectation, composition of households, the determinants of saving, etc.. Therefore household consumption is a function of income of the household, the age and occupation of the household's head, the member, age and sex of the family members, race, national origin, size of the community, section of the country, whether the household rents or owns its domicile, years of education, type of education and training, etc..

A change in the structure of population will also affect both consumption and savings. Keyensions hypothesize that consumption is a stable function of current disposable income in the short run. The life cycle hypothesis and the permanent income hypothesis both emphasize that consumption is a stable function of income only in the long run. In the short run, other factors such as the rate of the interest and wealth can have a significant impact upon consumption and savings.

Although the subject 'consumption pattern' has attracted a greater interest to a larger number of researchers in developed countries but in all under-developing countries research interest in consumer studies receive less attention. In developing countries like Bangladesh, the research in consumer studies has received least interest owing to the general stability of consumption patterns and the non-availability of relevant data on consumption patterns. An in-depth picture of consumption pattern of rural and urban households of Bangladesh is the main focus of the present study.

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2. Objectives of the Study

The objectives of the present study is to analyse the HES/HIES (Household expenditure Survey/ Household Income and Expenditure Survey) data to obtain as a set of estimates of patterns of consumption in Bangladesh and to get as clear an idea about the growth and differences in levels of consumption patterns between the rural and urban areas of Bangladesh. The specific objectives of the study are:

a) To asses the consumption patterns and trends of rural and urban areas.

b) To examine the differences in the levels and patterns of consumption between the rural and urban levels.

3. Methodology

The study was conducted mainly based on the data on HES/HIES of 1983-84, 1988-89, 1991-92, 1995-96, 2000, and 2005. The HES/HIES have been conducted nationwide by the Bangladesh Bureau of Statistics (BBS) for the traditional reason to provide the basis for a new index of income, expenditure and consumption expenditure, both monetary and non-monetary. The present study provides information on rural and urban consumption patterns in Bangladesh: proportion of total expenditure spent on food and non-food items, average propensity to consume (APC), and Marginal propensity to consume (MPC), of urban and rural areas of Bangladesh. The relationship between income and consumption is measured by the average and marginal propensity to consume.

4. Literature Review

Beginning with the interpretation of the Keynes' hypothesis, the definition of a "consumption function" evolved from the early studies - formulated to reconcile the observed low short-run marginal propensity to consume from income with the relatively stability of the average propensity -particularly due to the well-known theories of "permanent income" and "life cycle" (Duesenberry (1949), Brown (1952), Friedman (1957) and Ando and Modigliani (1963)). These theories are still part of the current discussion as in Carroll (2001) who argued that the optimal behavior of impatient consumers with labor income uncertainty is "much better described by Friedman's original statement of the permanent income hypothesis than by the later explicit maximizing versions".

Following another direction of research on the permanent income hypothesis Campbell and Mankiw (1989) suggested that the time-series data on consumption, income and interest rates were best viewed as generated not by a single forward-looking consumer but by two types of consumers: (i) forward-looking consumers which consume their permanent income, but were extremely reluctant to substitute consumption intertemporally in response to interest rate movements and (ii) "rule of thumb" consumers which consume their current income. Thus, because of ii) the change in aggregate consumption responds to the change in current income.

More recent literature on consumption considered the liquidity constraints as the most popular explanation of why Hall's consumption model failed (Muellbauer and Lattimore (1995)). Flavin (1981), using time series analysis to quantify the revision in permanent

income, reported that consumption is excessively sensitive to income, a conclusion that has been interpreted as evidence of the fact that liquidity constraints are important for understanding consumers' expenditure

Zeldes (1989) tested the PIH against the alternative hypothesis that consumers optimize subject to borrowing constraints. Deaton (1991) showed that, with borrowing restrictions, the behavior of saving and assets accumulation is sensitive to the consumers' beliefs about the stochastic process that was generating their income. Giovannini (1985) estimated the response of expected rate of growth of aggregate consumption to the expected real interest rate. Rossi (1988) found that Giovannini's results could be explained by the existence of liquidity constraints, which would be pervasive in this kind of countries.

As Friedman (1957) rightly points out that the use of measured (reported) income gives biased results, if it is used instead of a permanent income, but unfortunately, the permanent income is not observable. Therefore, researchers have proposed the total expenditure to be a potential proxy for permanent income and the empirical literature on consumption behavior has allowed it. Standard tests of the permanent income hypothesis (PIH) using data on nondurable typically equate consumption with expenditure (Browing and Lusardi, 1996).

Following the well-known Engel’s law which states that the proportion of expenditure on food with respect to the total expenditure declines with the rise in incomes; a useful indication of relative consumption patterns is derived by comparing the income elasticity. The main advantage of following this approach is that income elasticity does not depend on the units of measurement of income and consumption, and is, therefore, directly comparable between countries and commodities (Gupta, 1973). Rao and Raddy (1965) analyze the patterns of household consumption in Andra Padesh. They support the fact that the food and non-food articles are treated as necessities and luxuries in rural Andra Pradesh. Within the food group, milk and milk products, pulses, egg, fish, & meat, and sugar are found to be more elastic than others. Gupta (1973) has made a detailed study of the consumption patterns of India and he concludes that the elasticity co-efficient for most food items decline with the level of living.

HOUSEHOLD INCOME AND EXPENDITURE IN BANGLADESH: PATTERNS AND

TRENDS

LEVEL OF INCOME

At the rural areas of Bangladesh between 1983-84 and 2005 the income per household also rises gradually. In 2005 the income per household is about 231% higher at current prices than in 1983-84.The number of member per household falls over these years.

In urban areas there is also a rising trend of income between 1983-84 and 2005 and a declining trend of household size except the year of 1985-86. In 2005 the income per household is about 321% higher than in 1983-84. Income per member is raising both in

rural and urban areas of Bangladesh. Thus, the income level in urban areas has been rising faster than that of rural areas during the study period. (Table 1).

Table 1: Rural Urban Differences in income, at current prices of 1983-84, 1985-86, 1988-89, 1995-96, 2000 and 2005

Survey Year	Household Income Taka Per annum	Number of member Person per household	Number of earners Person per earner	Income per Member Taka per annum	Income per earner Taka per annum
Rural					
1983-84	22131	5.70	1.51	3;883	14656
1985-86	28958	5.83	1.44	4967	20110
1988-89	32;042	5.52	1.56	5.805	20.539
1991-92	37308	5.35	1.38	6820	27036
1995-96	43896	5.25	1.46	8364	26460
2000	57792	5.19	1.43	11136	40368
2005	73152	4.88	1.37	14990	53388
Urban					
1983-84	29842	5.84	1.51	5110	19763
1985-86	45186	6.09	1.52	7.420	29728
1988-89	50682	5.61	1.55	9034	32698
1991-92	57984	5.34	1.38	10523	42012
1995-96	95676	5.30	1.59	18048	60168
2000	118536	5.13	1.54	23112	76968
2005	125556	4.72	1.50	26597	83700
Urban as % of Rural					
1983-84	135	102	100	132	135
1985-86	156	104	106	149	148
1988-89	158	102	99	156	159
1991-92	155	101	100	154	155
1995-96	218	101	109	216	227
2000	205	99	108	208	191
2005	172	110	109	177	157

Source: HES and HIES data , various survey years

LEVEL OF EXPENDITURE

The monthly average household expenditure was estimated at Tk. 5319 in rural area and Tk. 8533 in urban area. Overall, the household average monthly expenditure increased by121.9% in 2005 compared to 1973-74 at nominal term at national level of Bangladesh. Similarly, the household average monthly consumption expenditure increased by 951.9% in 2005 compared 1973-74 in nominal terms. (Table 1).

Table 2: Average monthly income, expenditure, consumption expenditure percentage distribution of food and non-food consumption expenditure per household by survey year

Survey Year	Average household size	Average monthly income (Taka)	Average monthly total expenditure	Average monthly consumption expenditure	Percentage of consumption expenditure		
					Total	Food	Non-food
Urban							
1973-74	6.5	630	648	643	100.0	67.9	32.1
1976-77	5.7	965	635	621	100.0	63.3	36.7
1977-78	5.4	820	761	748	100.0	62.3	37.7
1978-79	5.6	1161	1061	1032	100.0	66.3	33.7
1981-82	5.8	1994	1847	1816	100.0	56.1	43.9
1983-84	5.8	2487	2316	2272	100.0	56.7	43.3
1985-86	5.1	3766	3540	3459	100.0	55.1	44.9
1988-89	5.6	4223	3900	3816	100.0	56.1	43.8
1991-92	5.5	4,832	4,377	4,280	100.0	56.0	43.9
1995-96	5.3	7,973	7,274	7,084	100.0	46.3	53.7
2000	5.1	9,878	7,337	3879	100.0	44.6	55.4
2005	4.7	10,463	8,533	8,315	100.0	4517	54.8
Rural							
1973-74	5.8	464	491	491	100.0	74.7	25.3
1976-77	5.5	653	490	484	100.0	74.9	25.1
1977-78	5.5	653	585	575	100.0	74.0	26.0
1978-79	5.7	865	780	766	100.0	77.1	22.9
1981-82	5.7	1082	993	991	100.0	69.0	31.0
1983-84	5.7	1844	1623	1612	100.0	66.7	33.3
1985-86	5.8	2413	2179	2159	100.0	65.1	34.9
1988-89	5.5	2670	2405	2374	100.0	67.0	32.4
1991-92	5.4	3109	2721	2604	100.0	69.1	30.8
1995-96	5.2	3658	3473	3426	100.0	62.4	37.6
2000	5.1	4816	4257	7125	100.0	59.3	40.7
2005	4.8	5842	5319	5165	100.0	58.54	41.4

*Source:*HES and HIES data , various years.

SPENDING ON FOOD AND NON FOOD ITEMS

Percentage spending on food items in both rural and urban areas falls sharply though some fluctuations are observed between the period of 1973-74 to 2005 but a major fluctuations are observed in case of rural areas of Bangladesh. In the year of 2005 this spending on food items was 45.2% and 58.6% which were 67.9% and 74.7% in1973-74 at urban and rural areas respectively. (Table 2).

SOURCES OF INCOME

At rural level agriculture contributed 28.7% in 2005 while it was 41.5% in 1983-84. In urban area, this falling rate is very little compared to rural which is only 0.2 percent. In both rural and urban areas, other than agriculture, business and commerce, professional wages and salaries, housing services and gift and remittance are considered as the major sources of income of the household. (Table 3).

Table 3: Sources of income in rural and urban areas, 1983-84, 1985-86, 1988-89, 1991-92, 1995-96, 2000 and 2005 (per cent of total household)

Decile of household	Total	Agriculture	Business And commerce	Professional wages and salaries	Housing services	Gift and remittance	Other Services
Rural							
1983-84	100.0	41.5	16.3	25.0	5.2	0.5	11.5
1985-86	100.0	39.5	14.9	22.7	6.0	0.5	16.4
1988-89	100.0	38.3	15.0	7.1	9.6	6.8	23.1
1991-92	100.0	40.1	12.4	21.1	9.1	10.6	6.7
1995-96	100.0	35.4	14.7	27.7	6.5	9.6	6.1
2000	100.0	25.5	22.4	27.7	5.0	11.0	8.4
2005	100.0	28.7	17.3	28.1	5.1	12.0	8.7
Urban							
1983-84	100.0	6.0	27.5	45.3	8.0	0.6	12.6
1985-86	100.0	3.1	30.7	42.3	8.3	0.3	15.8
1988-89	100.0	8.6	14.2	13.5	14.8	10.8	38.1
1991-92	100.0	5.9	24.7	37.9	11.0	9.1	11.4
1995-96	100.0	4.8	33.4	36.6	7.4	7.9	9.9
2000	100.0	3.7	32.4	32.6	13.1	10.6	7.5
2005	100.0	5.8	33.1	36.9	9.5	5.9	8.7

Source: HES and HIES data, various years

HOUSEHOLD CONSUMPTION EXPENDITURE BY MAJOR EXPENDITURE GROUP

Percentage distribution of monthly consumption expenditure on food and beverage in both urban and rural areas of Bangladesh are showing similar trend as national level. But the distribution by rural and urban shows some variation of share of consumption by major group. In 2005; 58.5% consumption expenditure accounted to food and beverage in rural area, where as the same was 45.1% in the urban area.

Share of spending on housing and house rent increased both in rural and urban areas of Bangladesh. It was 9.8% and 5.3% in 1973-74, where as 16.7% and 9.7% in 2005 in the urban and rural areas of Bangladesh respectively. Share of expending on cloth, foot-ware and fuel and lighting have decreased by about 2% in 2005 in both cases compared to 1973-74. (Table 4).

Table 4: Percentage distribution of monthly consumption expenditure on major items per household by survey year

Survey Year	Average Monthly consumption expenditure (Taka)	Monthly consumption expenditure on major items					
		Total	Food and beverage	Cloth And footwear	Housing And House rent	Fuel & Lighting	Misc. Expenditure
Urban							
1973-74	643	100.0	67.9	5.6	9.8	7.3	9.4
1976-77	621	100.0	63.3	6.8	12.0	8.2	9.7
1977-78	748	100.0	62.3	6.7	15.3	7.2	8.5
1978-79	1032	100.0	66.3	6.7	11.8	6.7	8.5
1981-82	1816	100.0	56.1	6.9	16.2	6.0	14.8
1985-86	3459	100.0	55.1	5.9	15.6	5.8	17.6
1988-89	3816	100.0	56.1	5.2	16.3	5.4	17.0
1991-92	4280	100.0	56.1	4.3	16.4	6.2	17.0
1995-96	7084	100.0	46.3	6.6	17.3	4.7	25.2
2000	7125	100.0	44.5	5.7	16.0	6.0	24.8
2005	8316	100.0	45.1	5.4	16.7	5.7	24.2
Rural							
1973-74	491	100.0	74.7	5.3	5.3	8.1	6.6
1976-77	484	100.0	74.9	5.1	5.1	10.4	4.5
1977-78	575	100.0	74.0	6.4	6.7	7.4	5.5
1978-79	766	100.0	77.1	5.8	4.2	7.7	5.2
1981-82	991	100.0	69.1	8.1	7.5	7.1	8.2
1983-84	1612	100.0	66.7	7.7	6.8	7.9	10.9
1985-86	2157	100.0	65.1	5.9	7.3	9.0	12.7
1988-89	2374	100.0	67.6	5.6	8.0	5.8	12.7
1991-92	2690	100.0	69.2	4.8	8.9	5.4	11.6
1995-96	3426	100.0	62.4	6.4	8.4	5.9	14.3
2000	3879	100.0	59.2	6.5	5.7	7.1	18.2
2005	5165	100.0	58.5	5.5	9.7	6.1	18.2

Source: Calculated from HES and HIES data of various years

FOOD INTAKE (GRAMS) IN DIFFERENT SURVEY YEARS

Average per capita daily intake of food in terms of quantity shows that at rural and urban level, consumption of food increased between 1973-74 and 2005. In 2005 per day food intake is 946.3 and 952.1 grams which were 47.6 and 81.4 grams more than that of 2005 in urban and rural areas respectively. (Table 5).

Table 5: Food Intake (Grams) in Different Survey Years

Survey Year	Rural	Urban	Urban Rural Discrepancy Ratio
1	3	4	5
2005	946.3	952.1	0.99
2000	898.7	870.7	1.03
1995-96	910.5	930.8	0.98
1991-92	878.1	938.4	0.94
1988-89	863.1	910.4	0.95
1985-86	871.3	892.0	0.98
1983-84	799.8	827.6	0.96
1981-82	740.0	824.4	0.90
1976-77	623.6	704.9	0.88
1973-74	678.5	737.2	0.92

Source : Calculated from HES and HIES data of various years.

PER CAPITA PER DAY INTAKE OF MAJOR FOOD ITEMS (IN GRAMS) BY RURAL AND URBAN AREAS

In rural Bangladesh consumption of rice was increased by 94% in 2005 over 1983-84 whereas consumption of wheat decreased by 87.3% over this period. Consumption of other food products like potato, pulses, vegetables, edible oil, onion, butter, chicken/duck, eggs, fish, milk, fruits, sugar and miscellaneous items increased while the consumption of mutton and wheat decreased over the time period mentioned earlier. (Table 7, Appendix 2).

In urban level, the consumption of rice was increased by 28.1% while consumption of wheat decreased by 49.4%. The consumption of other food like potato, pulses, vegetables, edible oil, beef, chicken/duck, eggs, milk, fruits, and sugar/gur decreased while the consumption of wheat, mutton, pulses, and miscellaneous items decreased over the time period mentioned.

Some rural-urban discrepancy is observed in the consumption patterns of major food items between 1983-84 and 2005:, the rice consumption in urban area increased by 8% while it was 94% in rural areas. It was 86% higher in rural areas than in urban areas of Bangladesh. Consumption of wheat decreased both in urban and rural areas but it decreased by 49.5% in urban area while it was by 87.3 in rural areas which is 37.8 higher than that of urban areas of Bangladesh. (Table 6).

Table 6: Average Per Capita per Day Intake of Major Food Items (in Grams) by Rural and Urban

Food Item	1983-84	1985-86	1988-89	1991-92	1995-96	2000	2005	Change (in grams) between 1983-84 to 2005	Change (in %) between 1983-84 to 2005
Rural									
Total	**799.8**	**871.3**	**863.1**	**878.9**	**910.5**	**898.7**	**946.3**	**+146.5**	**+18.3**
Rice	420.2	453.7	448.7	481.6	521.9	478.8	459.7	+395.	+94.0
Wheat	62.8	51.3	58.8	34.6	479.0	14.0	8.0	-54.8	-87.3
Potato	35.2	45.7	37.3	41.4	46.7	54.7	61.9	+26.7	+75.9
Pulses	9.9	18.3	21.1	17.3	12.9	15.0	12.7	+2.8	+28.3
Vegetables	104.7	141.0	131.3	135.3	154.4	141.1	156.5	+51.8	+49.5
Edible Oil	6.8	6.7	8.4	9.0	8.4	11.2	14.3	+7.6	+110.3
Onion	10.9	8.3	9.5	11.2	9.9	14.1	16.1	+5.2	+47.7
Beef	3.8	4.0	2.8	4.5	4.9	6.9	6.4	+2.6	+68.4
Mutton	1.4	1.0	0.7	0.8	0.8	0.4	0.6	-0.8	-57.1
Chicken, duck, Others	3.8	2.0	1.7	1.9	7.5	3.5	6.1	+2.3	+60.5
Eggs	1.6	3.3	6.1	4.6	2.6	4.6	4.4	+2.8	+175.0
Fish	2.8	34.7	32.5	30.5	42.2	37.8	39.7	+36.9	+1317.9
Milk	22.6	24.3	20.8	18.5	30.3	29.0	31.0	+8.4	+37.2
Fruits	16.8	22.0	12.4	15.9	25.3	26.5	32.4	+15.6	+92.9
Sugar/Gur	1.8	7.7	8.9	8.5	9.1	6.4	7.6	+5.7	+316.7
Food taken Outside	4.8	NA	NA	Na	NA	-	23.7	NA	NA
Miscellaneous	51.0	47.3	62.1	16.6	47.9	54.58	67.0	+16.0	+31.4
Urban									
Total	**827.6**	**892.0**	**910.4**	**938.4**	**930.8**	**870.7**	**952.1**	**+124.5**	**+124.5**
Rice	350.4	376.3	395.1	416.0	390.3	372.7	378.5	+28.1	+28.1
Wheat	74.0	54.3	53.1	47.1	40.1	30.1	24.5	-49.4	-49.5
Potato	53.2	65.0	55.0	58.3	64.4	58.4	67.5	+14.3	+14.3
Pulses	21.6	20.7	25.3	21.7	19.4	19.0	18.6	-3.0	-3.0
Vegetables	125.0	151.0	148.7	150.9	142.9	137.9	158.7	+33.7	+33.7
Edible Oil	9.6	11.7	14.3	16.4	17.0	19.1	22.9	+13.3	+13.3
Onion	13.9	12.0	15.6	17.0	20.2	20.7	25.3	+11.4	+11.4
Beef	7.8	10.3	7.5	9.9	15.0	14.0	12.0	+4.2	+4.2
Mutton	2.8	2.0	1.7	1.3	1.6	0.7	0.7	-2.1	-2.1
Chicken, duck, others	3.4	3.3	2.8	3.1	7.5	8.4	10.6	+7.2	+7.2
Eggs	7.6	5.0	4.5	5.8	5.9	7.9	7.4	-0.2	-0.2
Fish	20.7	46.0	50.9	47.8	51.7	40.9	49.6	+28.9	+28.9
Milk	34.6	32.3	30.8	23.2	42.1	32.6	36.6	+19.5	+19.5
Fruits	20.8	36.0	19.5	23.4	38.8	35.6	32.9	+12.1	+12.1
Sugar/Gur	5.3	11.0	10.9	10.8	10.1	8.7	9.7	+4.4	+4.4
Food taken outside	NA	NA	NA	NA	NA	-	27.9	NA	NA
Miscellaneous	76.0	55.1	74.7	85.7	63.5	54.9	68.6	-7.4	-7.4

Source: Calculated from HES and HIES data of various years

PER CAPITA PER DAY CALORIE INTAKE BY RESIDENCE AT NATIONAL, RURAL AND URBAN LEVEL

Per Capita Calorie per day increased in rural and urban level in 2005 than the corresponding figures of 1981-82. The rural and urban figures have increased by

18.27%, 7.08% respectively over this time period mentioned. But per capita per day calorie increased at a faster rate in rural areas than in urban which was 11.19% higher in rural than that of urban areas of Bangladesh. Moreover, the urban-rural discrepancy ratio is more in 2005 than that of in 1981-82. (Table 7).

PER CAPITA PER DAY INTAKE OF PROTEIN (GRAMS) BY RESIDENCE

Data on intake of protein in per capita term in quantity and the urban-rural discrepancy ratio show that per capita per day intake of protein increased from 1981-82 to 1995-96 on an average while its consumption decreased in 2000 than the corresponding figure of 1995-96 by 2.46 grams and 3.79 is less by percentage at the national level. Between 2000 and 2005 this figure was almost stagnated.

At the rural level though the similar trend is observed but some fluctuations observed in between 1981-82 and 1995-96. Urban areas are showing similar characteristics as rural areas but the urban rural discrepancy ratio is more in 2005 while it was 0.85 in 1981-82. In rural level per capita per day intake of protein (grams) increased by 6.92 grams which was 12.62% more in 2005 compared to 1981-82. In urban level this figure increased by only 0.08 gram which is 0.12% more compared to 1981-82. Therefore, per capita per day protein intake increased faster in rural Bangladesh while this figure almost stagnated in urban areas of Bangladesh between 1981-82 to 2005. (Table 7).

Table 7: Average per Capita per Day Calorie (K. Cal), and Intake of Protein (grams) by Residence

Survey Year	Rural	Urban	Urban–rural Discrepancy Ratio	Rural	Urban	Urban–rural Discrepancy Ratio
	K. Cal			Protein		
2005	2253	2193	1.03	61.74	64.88	0.95
2000	2263	2150	1.05	61.88	64.96	0.95
1995-96	2251	2209	1.02	64.45	67.50	0.95
1991-92	2267	2258	1.00	62.29	65.49	0.95
1988-89	2217	2183	1.02	62.29	68.27	0.91
1985-86	2203	2107	1.05	63.30	65.42	0.97
1983-84	2113	2020	1.05	60.68	62.86	0.97
1981-82	1905	2048	0.93	54.82	64.80	0.85

Source: HES data of 1983-84, 1988-89, 1991-92 and HIES data of 2000 and 2005 and author's calculation

DISTRIBUTION OF INCOME ACCRUING TO HOUSEHOLDS IN GROUPS (DECILES) AND GINI CO-EFFICIENT

In both rural and urban areas, similar changing pattern of decile distribution of income is observed over the years 1973-74 to 2005. On the whole, the distribution of income is more unequal in urban areas compared to rural areas.

Table: 8: Percentage Distribution of Income Accruing to Households in Groups (Deciles) and Gini Co-Efficient

Household Income Group and Gini Coefficient	2005	2000	1995-96	1991-92	1988-89	1985-86	1983-84	1981-82	1973-74
Decile: 1-5	**20.32**	**22.6**	**20.89**	**24.04**	**24.48**	**25.15**	**26.33**	**23.49**	**25.4**
Decile 6	7.17	7.09	7.53	8.45	8.10	8.09	8.56	8.27	8.0
Decile 7	8.73	8.45	9.15	10.09	9.61	9.48	9.99	9.95	10.0
Decile 8	11.06	10.39	11.35	12.10	11.62	11.25	11.74	12.17	12.8
Decile 9	15.07	14.00	15.40	15.64	15.20	14.58	15.08	15.79	16.0
Decile 10	37.64	38.01	34.68	29.23	31.00	31.46	28.30	29.53	28.4
Top 5%	26.93	28.34	23.62	18.85	20.51	21.35	18.30	18.95	16.4
Gini Coefficient	**0.467**	**0.451**	**0.432**	**0.388**	**0.379**	**0.370**	**0.360**	**0.3892**	**0.362**
Total- Rural	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Lowest 5%	0.88	1.07	1.00	1.07	1.10	1.23	1.19	1.16	0.8
Decile 1	2.25	2.80	2.56	2.67	2.74	2.92	2.95	2.84	2.4
Decile 2	3.63	4.31	3.93	4.07	4.13	4.30	4.37	4.27	4.8
Decile 3	4.54	5.25	4.79	5.10	5.10	5.30	5.46	5.34	5.6
Decile 4	5.42	5.95	5.97	6.05	6.05	6.20	6.46	6.37	6.3
Decile 5	6.43	6.84	6.98	7.21	7.21	7.16	7.53	7.47	7.1
Decile: 1-5	**22.27**	**25.15**	**24.23**	**25.10**	**25.23**	**25.88**	**26.77**	**26.29**	**26.20**
Decile 6	7.63	7.88	8.16	8.57	8.25	8.20	8.67	8.71	8.0
Decile 7	9.27	9.09	9.75	10.28	9.69	9.55	10.11	10.26	9.8
Decile 8	11.49	10.97	11.87	12.30	11.74	11.30	11.75	12.33	13.5
Decile 9	15.43	14.09	15.58	15.71	15.10	14.07	14.81	15.73	16.1
Decile 10	33.92	32.81	30.23	28.04	30.08	31.00	27.89	26.69	26.4
Top 5%	23.03	23.52	19.73	17.80	19.81	21.36	18.14	16.78	16.0
Gini Coefficient	**0.428**	**0.393**	**0.384**	**0.364**	**0.368**	**0.360**	**0.350**	**0.362**	**0.358**
Total- Urban	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Lowest 5%	0.67	0.79	0.74	1.09	1.12	1.20	1.18	1.09	1.6
Decile 1	1.80	2.02	1.92	2.64	2.76	2.84	2.82	2.69	3.2
Decile 2	3.02	3.07	3.20	4.06	4.05	4.08	4.10	3.52	3.6
Decile 3	3.87	3.84	4.06	5.01	4.91	5.09	5.02	4.39	5.2
Decile 4	4.61	4.68	4.98	5.88	5.80	5.99	5.93	5.47	5.8
Decile 5	5.66	5.60	6.97	6.80	6.84	7.04	7.00	6.44	7.2
Decile: 1-5	**18.96**	**19.21**	**21.13**	**24.39**	**24.36**	**25.04**	**24.87**	**22.51**	**26.6**
Decile 6	6.78	6.74	7.20	8.11	7.91	8.29	8.34	7.89	8.8
Decile 7	8.53	8.24	8.98	9.66	9.42	10.30	10.09	9.67	10.0
Decile 8	10.18	10.46	11.35	11.77	11.57	12.24	12.48	12.02	12.0
Decile 9	14.48	14.04	16.29	15.64	15.56	15.73	19.39	15.84	16.0
Decile 10	41.08	41.32	36.05	30.43	31.19	28.41	27.83	32.06	29.2
Top 5%	30.37	31.32	24.30	19.42	20.02	18.04	19.93	20.89	18.6
Gini Coefficient	**0.497**	**0.497**	**0.444**	**0.398**	**0.381**	**0.370**	**0.370**	**0.4093**	**0.384**

Source: Calculated from HES and HIES data of various years

In rural area, the richest-poorest ratio was found to be 34.47 in 2005 while this ratio was 35.7 in 2000. In urban area, this ratio was 48.33 in 2005 while 39.6 in 2000. So the magnitude of ratio was higher in urban area than that of rural area indicating that, the richest-poorest gap was more severe in urban area.

The Gini Co-efficient of income increased to 0.467 in 2005 from 0.362 in 1973-74. This increased in Gini-Coefficient bears the evidence that, slight concentration of income to the rich households took place during the period 1973-74 to 2005. (Table 8).

DIFFERENTIAL IN APC AND APS

Table 9 present the average propensity to consume (APC) and average propensity to save (APS) for a period of 1973-74 to 2005. Table 3 and 4 reveal that APC and APS are almost constant between some period and or rather fluctuating between some other years in both rural and urban areas of Bangladesh.

Table 9 Average Propensity to Consume (APC) and Average Propensity to Save (APS)

Year	Urban	Rural	Urban	Rural
	APC		APS	
1973-74	1.0206	1.0582	−0.0286	−0.0582
1976-77	0.6435	0.7412	0.3420	0.2496
1977-78	0.9122	0.8806	0.0720	0.1041
1978-79	0.8889	0.8855	0.0861	0.0983
1981-82	0.9107	0.9159	0.0737	0.0823
1983-84	0.9136	0.8742	0.0688	0.0198
1985-86	0.9185	0.8939	0.0600	0.0970
1988-89	0.9036	0.8891	0.0765	0.0993
1991-92	0.8858	0.8375	0.0765	0.1248
1995-96	0.8885	0.9366	0.0939	0.0506
2000	0.7237	0.8054	0.2549	0.1161
2005	0.7947	0.8841	0.1845	0.0895

Source: Table 9 is computed from HES & HIES data of 1983-84, 1988-89, 1991-95, 2000 and 2005 HIES report.

APC is considerably higher in rural areas than in urban area on an average of the time period mentioned. The total average of APC is 0.8670 for urban areas while it is 0.8835 for rural areas which is higher by 0.01 than that of urban areas. Therefore, some disparities are found between rural and urban Bangladesh over this time period.

On the other hand the APS figure on an average is higher in urban area than in rural area. The average figure for APS for more than three decade is 0.1134 for urban area while it is 0.0884 for rural area. The APC figure are 0.7947 and 0.8841 in 2005 while it were 1.0206 and 1.0582 in 1973-74 in urban and rural areas respectively.

APS figure in 2005 are 0.1845 and 0.0895 while it were -0.0286 and -0.0582 in 1973-74 and urban figure is higher than that of rural areas of Bangladesh. (Table 9, Appendix 2)

MPC IN DIFFERENT YEARS

Marginal Propensity to consume has increased in rural, urban levels of Bangladesh between 1976-77 and 2005. Though this figure, it is higher in urban level than in rural in 2005. But the MPC on an average is higher in rural areas than in urban areas over this year which was 0.7434 in rural level and 0.6499 for urban level.

Table 10: Marginal Propensity to Consume (MPC) and Marginal Propensity to Save

Year	Urban	Rural	Urban	Rural
	MPC		MPS	
1973-74	0.0000	0.0000	1.0000	1.0000
1976-77	-0.0657	-0.0370	1.0657	1.0370
1977-78	-0.8759	-0.0000	1.8759	1.0000
1978-79	0.8328	0.9009	0.1672	0.0991
1981-82	0.9412	1.0369	0.0588	-0.0369
1983-84	09249	0.8150	0.0751	0.1850
1985-86	0.9281	0.9578	0.0719	0.0422
1988-89	0.7812	0.8444	0.2188	0.1556
1991-92	0.7619	0.5239	0.2381	0.4761
1995-96	0.8927	1.4912	0.1073	-0.4912
2000	0.0341	0.3912	0.9659	0.6088
2005	1.9932	1.2534	-0.9932	-0.2534

Source: Table 10 is computed from HIES report of 1988-89, 1995-96, 2000 and 2005.

But the MPC on an average is higher in rural areas than in urban areas over this year which was 0.7434 in rural level and 0.6499 for urban level. Therefore rural-urban disparities are observed in case of MPC, though both are showing ultimately rising trend with the rise in nominal income over this year mentioned. Therefore rural-urban disparities are observed in case of MPC, though both are showing ultimately rising trend with the rise in nominal income over this year mentioned (Table 10).

INCOME AND EXPENDITURE ELASTICITY

Income and expenditure elasticity have been estimated for selected items of consumption for both rural and urban areas. The items for which elasticity have been estimated are rice, wheat, potato, pulses, milk, mutton, beef, chicken, egg, fish, and clothing & footwear. Data show that items such as milk, fish, eggs have high income/expenditure elasticity between the period of 1973/74 to 1995/96 whereas, in the year of 2000 and 2005, the income/expenditure elasticity of fish is very low; even it is negative income inelastic in 2000 in the rural areas of Bangladesh. Though the eggs have very high income/expenditure elasticity in 2000 but it is negatively responsive with the rise in income and expenditure in 2005.

Table 11: Income and Expenditure Elasticity of selected consumption items from 1973-74, 2005

Survey Year	Rice	Wheat	Potato	Pulses	Milk	Mutton	Beef	Chicken	Eggs	Fish	Cloth. and Footwear
INCOME ELASTICITIES											
Rural											
2005	0.66	-1.48	0.21	0.46	0.24	0.73	-0.27	2.81	-0.16	0.17	-0.67
2000	-1.19	-1.68	0.51	0.48	0.13	-1.48	1.21	-0.17	2.28	-0.35	0.03
1995/96	-0.06	-0.28	-0.57	-1.13	2.28	0.00	0.39	3.50	-1.93	1.32	1.55
1991/92	0.37	-2.05	0.59	-0.90	-0.55	0.71	3.03	0.59	-1.22	0.00	-0.74
1988/89	0.43	0.02	0.76	0.70	0.95	0.56	0.73	0.75	0.70	0.95	0.76
1985/86	0.43	0.13	0.75	0.67	0.99	0.35	0.52	0.66	0.80	0.99	0.99
1983/84	0.65	0.13	0.89	0.93	1.18	0.84	0.87	0.53	0.71	1.03	0.98
1973/74	0.73	-0.08	-	0.74	1.37	1.28	1.31	1.70	1.37	0.95	0.95
Urban											
2005	0.1	1.25	1.04	0.14	0.82	0.00	0.96	0.16	0.42	1.43	0.74
2000	-0.11	0.87	-0.36	-0.07	-1.05	-1.95	-0.23	0.09	1.18	-0.73	0.49
1995/96	-0.06	-0.20	0.15	-0.15	1.15	0.32	0.72	2.00	0.02	0.11	-0.71
1991/92	0.26	0.57	0.03	-0.71	-1.22	-1.17	1.20	0.53	1.43	-0.30	-1.02
1988/89	0.19	0.12	0.58	0.56	1.02	0.62	0.66	0.75	1.00	0.90	0.79
1985/86	0.16	0.20	0.46	0.49	1.10	0.59	0.78	0.79	1.01	0.91	0.90
1983/84	0.33	0.21	0.55	0.63	1.21	0.92	0.79	1.37	1.01	0.99	1.09
1973/74	0.53	-0.02	-	0.59	1.06	1.22	1.02	1.17	1.04	0.77	1.06
EXPENDITURE ELASTICITIES											
Rural											
2005	-0.12	0.04	0.18	-0.47	0.20	1.59	-0.22	2.49	-0.13	0.15	-0.72
2000	-1.6	-2.27	0.69	0.65	0.17	-2.00	1.63	-0.24	3.08	0.47	0.04
1995/96	0.04	-0.20	0.39	-0.78	1.96	0.00	0.27	2.43	-1.34	0.92	1.08
1991/92	0.55	-0.38	0.74	1.10	2.83	2.86	2.49	2.25	1.24	1.21	0.28
1988/89	0.61	0.10	0.92	0.87	1.11	0.83	0.95	0.79	0.86	0.21	1.97
1985/86	0.54	0.14	0.98	0.92	1.25	0.40	0.56	0.76	1.01	1.28	0.97
1983/84	0.82	0.15	1.00	1.08	1.36	1.06	0.95	0.74	0.92	1.22	1.11
1973/74	0.83	0.13	-	1.05	1.46	1.80	1.70	1.73	1.27	1.06	0.95
Urban											
2005	0.08	0.71	0.59	0.08	0.47	0.00	0.55	0.09	-0.24	0.81	-0.28
2000	-0.65	-5.11	-2.10	-0.42	-6.22	-11.52	-1.37	0.55	6.97	4.28	-2.76
1995/96	-0.09	0.35	-0.15	0.15	1.13	0.31	0.71	1.96	0.02	0.11	0.68
1991/92	0.08	0.39	0.26	0.39	2.18	1.99	1.87	2.48	1.67	0.83	0.95
1988/89	0.25	0.14	0.67	0.65	1.13	0.72	0.76	0.88	1.09	1.00	0.88
1985/86	0.18	0.23	0.48	0.52	1.16	0.69	0.83	0.81	1.07	0.97	0.94
1983/84	0.38	0.24	0.61	0.71	1.28	0.94	0.86	1.28	1.12	1.06	1.14
1973/74	0.69	0.13	-	0.75	1.95	2.41	1.49	2.04	1.39	1.11	1.24

Source: Calculated from HES and HIES data of various years.

On the other hand in 2005, the demand for fish, chicken and mutton has increased compared to 2000 in a great extend as they are showing high income /expenditure elasticity in rural areas. The demand for beef has positive elasticity between the periods of 1973/74 to 2000, but it has largely declined in the year 2005 which is showing negative income/expenditure elasticity for rural areas. The urban areas are showing slightly different pictures. The demand for fish and chicken is showing positive income/expenditure elasticity from 1973-74 to 2005 only exception to 2000 for income elasticity though, expenditure elasticity is very high in this year. The eggs is also showing positive income/expenditure elasticity only exception to 2005 for expenditure elasticity.

On the other hand in 2005, in urban areas of Bangladesh, the demand for fish, chicken and eggs, beef, milk, pulses, and potato has increased compared to 2000 as they are showing high income /expenditure elasticity though some of them were negatively responsive in terms of rise in income and expenditure in the year of 2000 compared to 1995-96. Income elasticity of demand for mutton, beef, chicken increased in rural areas during period between 1973/74 to 2005 considering few exceptions, while the corresponding indicator for wheat, declined even it is negatively responsive in the recent years like 1991-92, 1995-96, 2000 and 2005 in rural areas.

Income elasticity of demand for rice remains highly inelastic: a 10 percent increase in income would lead to 4.3 percent increase in the demand for rice in rural areas and only 1.9 percent in urban areas between the above mentioned periods and in the recent years it is also negatively responsive in terms of rise in income and expenditure.

On the whole the non-cereal food sector, specially livestock and fishery items demonstrate considerable growth potentials in the rural areas. A 10 percent increase in rural income would result in considerable increase in demand for milk (9.5 percent), fish (9.5percent), potato (7.6percent), chicken (7.5percent), beef (7.3 percent), egg (7.0 percent), pulses (7.0 percent), mutton (5.6percent) etc. Income elasticity of demand for livestock and poultry products was higher in urban areas compared to rural areas of Bangladesh. Thus, a 10 percent increase in urban income would lead to still higher increase demand for milk (10.2 percent), eggs (10.0 percent) mutton (6.2 percent) etc. (Table 11).

ESTIMATED MODEL OF CONSUMPTION: LINER AND LOG LINER MODEL

It is quite logical that the total expenditure of any household, whether rural or urban, will be influenced by the expenditure on consumer goods and services. In other wards, a household spending more on consumption is likely to spend more on other items. There have been studies on the relationship of between average monthly consumption expenditure and average monthly total expenditure but no such studies are known to have been done in Bangladesh.

Table12: Estimated Model of Average Monthly Consumption Expenditure (Y) on Average Monthly total Expenditure (X)

	Linear Model		Log-linear model	
	Estimated model	**R^2**	**Estimated model**	**R^2**
National	$y = - 34.25 + 1.042x$	0.9987**	$y = 0.9424x^{.0105}$	0.9997**
Urban	$y = 160.69 + 1.0615x$	0.8846**	$y = 0.7928x^{1.0395}$	0.9678**
Rural	$y = 452.48 + 0.7161x$	0.8582**	$y = 1.7483x^{0.9203}$	0.9753**

The relationship between average monthly consumption expenditure and average monthly total expenditure has been examined using both linear and log-linear model. Data used for this study were the consumption expenditure data from 1973-2005 conducted and published by BBS in the different survey years mentioned earlier. (Table 2)

It was found that both linear and log-linear model fitted well to the data but, for any year, log-linear model appeared to be relatively more adequate to explain the average monthly total expenditure based on the average monthly consumption expenditure. Using log-linear model, the average monthly consumption expenditure can explain about 97% of the variation in the average monthly total expenditure of a household both for rural and urban areas and almost 100% at the national level. The results give very strong evidence that the average monthly consumption expenditure is a major determinant of the average monthly total expenditure implying that with knowledge on the monthly consumption expenditure, one can determine the monthly total expenditure with a very high confidence for rural and urban areas and almost certainly at the national level.

5. Conclusion

Consumption is the ultimate goal of all the economic activities. The living standard of the people of a country obviously depends upon the levels and patterns of consumption and more consumption indicates higher living standard. Therefore, it is one of the main targets of all the developing countries like us, to raise the consumption demands in all sections of the society which will also help to achieve the satisfactory rate of economic growth of the nations.

In Bangladesh, the income, expenditure and consumption expenditure per household have been increased gradually over the years of 1973-74 to 2005. Although, there have been rising trends of income, expenditure and consumption expenditure but at the same time there has also been increased in ‘consumption disparities’ between the rural and urban areas. Thus, some differences have been observed in the consumption of some major food items. In both rural and urban areas, cereals, vegetables, edible oil and clothing are treated as necessities. In addition to that, pulses and beverages are necessities in urban areas. On the other hand, egg, fish, meat and sugar are found to

be luxuries in both urban and rural areas in the recent years. Therefore, there are some differences in the patterns of consumption in both rural and urban areas which may have been created by some factors like income, demographic and various social factors.

Bangladesh will need to substantially accelerate growth to 6-7% per annum, and ensure that such growth is much more pro-poor and better distributed (World Bank 2004). Thus it is important to achieve the faster rate of economic growth which can only help to reduce the consumption disparities among the different sections of our society whether between the rural and urban areas, or within the same area.

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