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POVERTY AND FOOD CONSUMPTION PATTERN: A SITUATION ANALYSIS OF BANGLADESH

Shaela Tasmina Mahbub*
Assistant Professor in Economics,
National University, Bangladesh

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ABSTRACT

Bangladesh is characterized by high densely populated and resource constraint country. Percentage of people living under poverty line is reducing from 1995 to 2010 period but actual number of population living under poverty line is still very high. Food consumption pattern of the people are imbalanced in nature and it is significantly biased towards cereals or carbohydrate enrich foods. Using the data of Household Income Expenditure Survey of 2010 published by Bangladesh Bureau of Statistics it has been found that this kind of consumption pattern prevails among all poverty groups i.e. hardcore poor, poor and non poor. Using the same data set it is shown that none of the households from poor and hard core poor able to intake the recommended calorie and only 55.4% of non-poor households are receiving the desired calorie. Huge difference exists in carbohydrate intake more than the required amount between hard core poor; and poor and non-poor households. In case of percentage of population receiving less than the recommended amount for vitamin, fat, and protein intake is also very high.

KEY WORDS: *Food consumption pattern, Imbalanced nutrient intake and poverty groups*.

INTRODUTION

Food consumption pattern means the process by which individuals identify, purchase and consume foods. It is however, multidimensional and shaped by various factors, including physiological, agricultural, historical, religious, socio-economic and psychological ones [1]. Food consumption pattern of people of a country have significant implications for attaining food security for its population. With available household-level information on individual food items consumed, their shares in total consumption, frequency of intake and nutrient composition, it is possible to make general assessments of their consumption pattern.

Consumption pattern changes over time, being influenced by many factors and their complex interactions. Income, prices, individual preferences and beliefs, cultural traditions, as well as geographical, environmental, social and economic factors all interact in a complex manner to shape consumption patterns. Changes in these factors bring a palpable change in consumption pattern of any country or community in the passage of time. Food policy aimed at to bring change in consumption pattern must give emphasis to these factors.

In the early stage of development of a country significant dependence on cereals are observed and gradually this dependency transform into more reliance on other high valued foods. As a result, the importance of cereals reduces and providing emphasis on other high valued foods emerges as a major concern to the people and to the policy makers and the government. Bangladesh has achieved significant success in reducing poverty and increasing the availability of food grains. The country has also achieved considerable improvement in raising the availability of other non cereal and non crop food items. Despite the achievement the consumption pattern of the country remain biased towards cereals.

METHODOLOGY

The consumption data of Household Income Expenditure Survey of different year are used in the paper. The data set included daily data on food consumption for consecutive 15 days for 12,240 households. Nutrition data are taken from Bangladesh Health and Demographic Survey. To analyze the data tables and different diagrams are used in the paper. Data on desirable diet for Bangladeshi people are taken from the research paper conducted under Food Planning and Monitoring Unit, Ministry of Food and Disaster Management and National Food Policy Capacity Strengthening Program, Government of Bangladesh.

LITERATURE REVIEW

Consumption is an action of using up a resource or an amount of something which is used up or ingested (Oxford English Dictionary). In economics only the final purchase of goods and services by individuals constitutes consumption. If we signify consumption of food it is simply the action of eating or drinking something or food. Food is

any substance consumed to provide nutritional support for an organism (Encyclopaedia of Britannica). It is usually of plant or animal origin, and contains essential nutrients, such as carbohydrate, fat, protein, vitamin and minerals. The substance is ingested by an organism and assimilated by the organism's cells to provide energy, maintain life, or stimulate growth.

[2] Defines consumer behaviour as: " ... the process whereby individuals decide whether, what, when, where, how, and from whom to purchase goods and services.[3] Provides a different definition by explaining consumer behaviour as: "... the study of the buying units and the exchange processes involved in acquiring, consuming, and disposing of goods, services, experiences, and ideas". This definition focuses on buying units in an attempt to include not only the individual but also groups that purchase products or services.

[4] Define consumer behaviour as: "The behaviour that consumers display in searching for, purchasing, using, evaluating, and disposing of products, services, and ideas.[4] Elaborate on the definition by explaining that consumer behaviour is, therefore, the study of how individuals make decisions to spend their available resources (time, money, effort) on consumption-related items. It includes the study of what, why, when, where and how often they purchase and how they use the purchased product. In addition, it encompasses all the behaviours that consumers display in searching for, purchasing, using, evaluating and disposing of products and services that they expect will satisfy their needs. Engel, Blackwell and [5] states that: "those actions directly involved in obtaining, consuming, and disposing of products and services, including the decision processes that precede and follow these actions".

[6] Stressed that the cultural and social significance of food and eating habits in India is multifaceted and rich in meaning. Consumption is determined by socio-economic characteristics of household, effect of age, land ownership, income and access to public distribution system [7]. Prices and incomes are leading determinants of food choices, dietary quality and household food security [8].

[9] Found that in West Pakistan, people have a tendency to shift to animal products for the major part of the calories if the income is permissive of such a shift. Consumption patterns between urban and rural households are different and households with higher income tend to spend more on milk, fish, meat and rice as compared to their counterparts who tend to spend more on pulses, vegetables and wheat in Pakistan [10].

It has also been noticed [11] that household with the same resources tends to choose different consumption bundles based on the gender and the education level of the household head. The calorie intake levels are seen to be higher in rural areas in contrast to urban areas while diets of urban areas are found to be more diverse [12].

[13] Found that the greater the number of household members in the household, the lower the food security situation in Bangladesh. Household size, age, educational level, sex and salary earning had positive impact on the daily per capita calorie intake while dependency ratio and non engagement in farming negatively affected it in Nigeria [14].

[15] Examined food demand in India in the context of a structural shift in the dietary pattern of its population. The study had revealed that the estimated income elasticities vary across income classes and were lowest for cereals group and highest for horticultural and livestock products.

[16] Examined the magnitude of the association between dietary diversity and food security. Study revealed that a 1 per cent increase in dietary diversity was associated with a 1 per cent increase in per capita consumption, a 0.7 per cent increase in total per capita caloric availability, a 0.5 per cent increase in household per capita daily caloric availability from staples, and a 1.4 per cent increase in household per capita daily caloric availability from non-staples.

[17] Examined long term changes in Indian food basket and nutrition. The study investigated that the food consumption pattern in India was diversifying towards high value commodities. The decline in per capita consumption of cereal in particular coarse cereals had worsened the nutritional status of the rural poor.

[18] Study found that female-headed households were more vulnerable to food insecurity than male-headed households. Increasing the farm size and crop output would reduce the risk of male-headed households falling into food insecurity in the future. In the female-headed households, age, education of household's head and off-farm income were the significant determinants.

RESULTS AND DISCUSSION

Percentage of Population Suffering from Calorie Deficiency in Bangladesh

Human energy requirement is determined by energy expenditure plus additional energy required for growth, pregnancy and lactation. Energy expenditure and growth depends on age, sex, activity level, metabolism and body

weight. Moreover, calorie requirement of persons of same age, sex, body weight and activity level is not a fixed number, and even the requirement of the same person maintaining the same body weight and activity level varies from day to day. A person's economic position is defined in various ways and defining in terms of calorie intake is one of them. According to Household Income Expenditure Surveys (HIES) conducted by Bangladesh Bureau of Statistics (BBS) people who received 2122 kcal and 1805 kcal calorie per capita per day are considered as people living under absolute/upper poverty line and hard core/lower poverty line respectively. Although the percentages of population living under these two lines are improving in Bangladesh but significant numbers of people are still living below the poverty line. Table 1 shows the incidence of poverty from 1995-96 to 2010 period, as measured by the Cost of Basic Need (CBN) method.

Table 1: Head count rate of incidence of poverty, 1995-96 to 2010 (CBN method)

Residence	Upper poverty line				Lower poverty line			
	2010	2005	2000	95-96	2010	2005	2000	95-96
National	31.5	40.0	48.9	50.1	17.6	25.1	34.3	35.1
Rural	35.2	43.8	52.3	54.5	21.1	28.6	37.9	39.4
Urban	21.3	28.4	35.2	27.8	7.7	14.6	20.0	13.7

Source: HIES Report 1995-96, 2000, 2005 and 2010

Though considerable improvement is observed in reducing poverty, still in 2010 31.5% and 17.6% of the population are living below the upper poverty line and lower poverty line respectively which is very high. Compared to 1995-96, poverty in 2010 has declined by 18.6% and 17.5% in upper and lower poverty line respectively. Incidence of poverty is more acute in rural areas compared to urban areas. For lower poverty line, the reduction was more pronounced in urban than in rural areas.

Comparison between Calorie Intake by Poverty groups and National Average and Recommended Calorie Intake by FAO

The sample households of Household Income and Expenditure Survey of 2010 are classified into three groups according to their calorie intake in the paper. These groups are hard core poor, poor and non-poor (receiving calorie more than 2122 kcal per capita per day), Table 2 shows actual intake of calorie per capita per day by three groups according to HIES 2010 respondent households compared with national average calorie intake and required intake recommended by FAO.

Table 2: Comparison between Calorie Intake by Poverty groups and National Average and Recommended Calorie Intake by FAO

Calorie Requirement by FAO	National Average of Calorie Intake	Calorie Intake by Non-poor Group	Calorie Intake by Poor Group	Calorie intake by Hardcore Poor Group
2430	2318	2486	1810	1397

Source Author's calculation from Household Income and Expenditure Survey 2010, BBS.

As per the Table 2 the non-poor group are taking 56 kcal and 168 kcal more calorie compared to FAO requirement and national average respectively. The poor group are taking 620 kcal and 508 kcal less calorie compared to FAO requirement and national average respectively. On the other hand the hardcore poor are taking 1033 kcal and 921 kcal less calorie compared to FAO requirement and national average respectively. The sample poor and hardcore poor of HIES-2010 are receiving much less energy compared to their minimum requirement level although the non- poor group are receiving more calorie than the FAO recommended level and national average, the difference is marginal.

Per Capita per Day Calorie and Protein Intake by Residence in Bangladesh

People need calorie to keep body temperature and protein is an essential component of food to attain and maintain healthy life. Deficiency in either of these two will generate malnutrition which is referred as Protein-Energy Malnutrition (PEM). It is the real indicator of consumption of food and major nutrients contents of food. According to the FAO/USDA, the recommended daily minimum intake of protein for adults who are at an average weight and activity level is 56 grams per day for male and 46 grams per day for female. According to joint WHO/FAO Expert Group Guideline 10–20 per cent of overall calories must come from protein rich foods. As per Table 3 it is important to note that per capita calorie intake slightly decreased from 1995-96 to 2005 for rural, urban and all households but again increases in 2010. Per capita protein intake also increases from 1995-96 to 2010 for all categories of households. It is also noteworthy that the levels of per capita calorie and protein consumption were well above the absolute poverty line calorie (2122 kcal) and recommended level of protein by FAO/USDA (56 grams) intakes respectively. This implies that on an average the country is able to overcome PEM.

Table 3: Calorie and Protein Intake by Residence from 1995-96 to 2010

Survey Year	Calorie intake (Kcal/cap/day)			Protein intake (gram/cap/day)		
	National	Rural	Urban	National	Rural	Urban
2010	2318.3	2344.6	2244.5	66.26	64.24	69.11
2005	2238.5	2253.2	2193.8	62.35	61.53	64.82
2000	2240.3	2263.2	2150.0	62.50	61.88	64.96
1995-96	2244.0	2251	2209	65.96	64.45	67.50

Source: HIES reports 1995-96, 2000, 2005 and 2010

Food Element Wise Consumption Pattern in Bangladesh

Major food elements from which people generate calorie fall into six food elements. The food elements are; carbohydrate, protein, fat, vitamin, minerals and water. In Bangladesh people derive carbohydrate from cereals like rice and wheat, protein from animal originated food i.e. meat, fish, egg, and plant originated food like pulses, fats from edible oils and vitamins from basically different vegetables. People of the country also eat lots of potatoes because of its availability. Although as a macronutrient contents it falls into carbohydrate category but the people of the country considered it as vegetable. Here potato is considered as a food of carbohydrate category. Milk/milk products is another important food item of the country and it is considered as a balanced food by the nutrition scientist since it is rich in terms of both macronutrient and micronutrient contents. Therefore, milk is considered as a separate food group by not keeping it under any one food category.

Calorie Intake by Food Elements by Residence

According to HIES 2010 total calorie derived from carbohydrate, protein, fat, vitamin and milk/milk products consist of only the food items mentioned in previous section is 2043.9 kcal, 2087.5 kcal and 1921.5 kcal per capita per day at national level, rural and urban areas respectively. On the other hand total calorie derived from all food items consumed in Bangladesh according to HIES 2010 is 2318.3 kcal, 2344.6 kcal and 2244.5 kcal per capita per day at national level, rural and urban areas respectively. Therefore, calorie derived from other foods are 274.4 kcal, 257.1 kcal and 323 kcal per capita per day at national level, rural and urban areas respectively. In Table-4 calorie intake from food elements (carbohydrate, vitamin, protein and fat) and rest of the food items are given by residence in Bangladesh.

Table 4: Food Element-wise Calorie Intake by Residence (per capita per day)

Residence	Food Element					
	Carbohydrate	Protein	Fat	Vitamin	Milk/Milk Products	Others
National	1593.2	150.1	184.1	89.1	27.4	274.4
Rural	1674.1	132.8	164.3	91.1	25.2	257.1
Urban	1366.1	199.0	239.7	83.2	33.5	323.0

Source: Authors calculation from Household Income Expenditure Survey 2010: Note: *Others include condiments & spices, fruits, sugar/gur and miscellaneous items.

As per the Table 4 rural people are taking more calorie in total than the national average and urban population as well as calorie derived from carbohydrate and vitamin. On the other hand urban population is receiving more calories from protein and fat. Percentages of calorie intake from carbohydrate, protein, fat and vitamin to total calorie intake at national level are 68.72%, 6.47%, 7.94% and 3.84% respectively. Percentages of calorie intake from carbohydrate, protein, fat and vitamin to total calorie intake in rural area are 71.40%, 5.66%, 7.01% and 3.88% respectively. Percentages of calorie intake from carbohydrate, protein, fat and vitamin to total calorie intake in urban area are 60.86%, 8.87%, 10.68% and 3.71% respectively. Calorie derived from carbohydrate is more than the recommended maximum percentage of 60% [19] both at national level and in rural area. In urban area it is near the recommended level. On the other hand calorie derived from protein and fat is lower compared to the recommended percentage (11% per cent from fats and 13.5 per cent of calorie from proteins as per [19] at all areas (national, rural and urban area).

Food Element wise Calorie Intake by Poor and Non-Poor

The poor and hard core poor groups are taking much less calorie compared to the FAO recommended minimum calorie requirement. Although the non-poor are receiving more calorie compared to the FAO recommended minimum calorie requirement but the margin is very low. This signifies poor food consumption pattern existent in both poor and non-poor group of Bangladesh.

Table 5: Food Elements Wise Calorie Intake by Hard core Poor, Poor and Non-Poor (per capita per day)

Food Elements	Hard core Poor	Poor	Non-Poor
Carbohydrate	1097.65	1437.42	1947.93
Protein	93.64	119.70	180.04

Fat	139.80	170.01	243.40
Vitamin	65.84	83.40	115.50
Total	1396.93	1810.53	2486.88

Source: Author's Calculation from Household Income Expenditure Survey 2010.

According to the Table 5 given above the poor and the hard core poor group of the survey households are taking calorie much less than their minimum calorie that determined as hard core poor (1805 kcal) and poor (2122 kcal) by BBS.

Calorie intake from carbohydrate, protein, fat and vitamin by the hard core poor are less than 495.55 kcal, 56.46 kcal, 44.3 kcal and 23.26 kcal respectively than the national average. The actual intake of carbohydrate, protein, fat and vitamin of the hard core poor are 31.10%, 37.61%, 24.06% and 26.11% less than the national average respectively. The actual intakes of all the food elements of the hard core poor are low from the national average and the rate is highest in case of protein. Percentages contribution of carbohydrate, protein, fat and vitamin sources to total calorie are 78.58%, 6.70%, 10.00% and 4.71%.

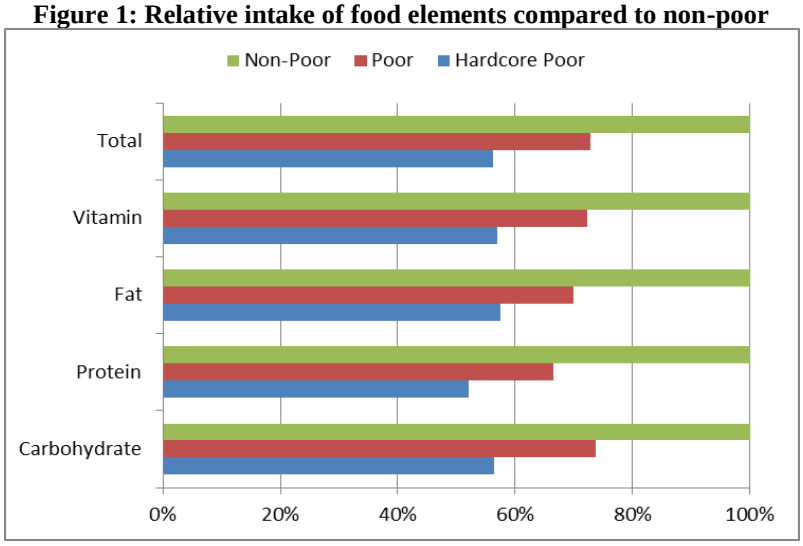
Calorie intake from carbohydrate, protein, fat and vitamin by the poor are less than 155.78 kcal, 30.40 kcal, 14.09 kcal and 5.7 kcal respectively than the national average. The corresponding rates of the difference between national average and actual intake of carbohydrate, protein, fat and vitamin of the hard core poor are 9.78%, 20.25%, 7.65% and 6.40%. Unlike the hard core poor the poor group managed to reduce the gap between national average and actual intake of energy from different food group but this group has the similarity with hard core poor in terms of highest difference in calorie received from protein source. Percentages contribution of carbohydrate, protein, fat and vitamin sources to total calorie are 79.39%, 6.61%, 9.39% and 4.61%.

The non-poor group is getting 354.73 kcal, 29.94 kcal, 59.3 kcal and 26.4 kcal additional energy from carbohydrate, protein, fat and vitamin sources compared to national average. Percentages contribution of carbohydrate, protein, fat and vitamin sources to total calorie are 78.33%, 7.24%, 9.79% and 4.64%.

From the above analysis it is evident that although there is significant difference in total calorie intake between these three poverty groups but all of them follow the same consumption pattern. In Bangladesh irrespective of economic condition cereals remains the single largest contributor for their energy supply. The role of other food groups especially protein remains far behind the requirement. As a result the people are lack in having diversified food which is the precondition for an active and healthy life and resultant food security.

A comparative expression of food element intake of hard core poor and poor with that of non-poor is given in Figure 1.

Figure 1: Relative intake of food elements compared to non-poor



Source: Author's Derivation from Household Income Expenditure Survey 2010.

Figure 1 shows that calorie intake by poor and hard core poor is much lower than the non-poor group irrespective of different food elements. The difference of poor and hard core poor with that of non-poor in protein intake is highest followed by fat.

It is noticeable from the above discussion that the contribution of carbohydrate is much higher compared to other food elements in all poverty groups. People's consumption behaviour is biased towards the consumption of carbohydrate in Bangladesh.

Comparison between Percentage of Required and Actual Calorie Intake by Poverty group

A comparative analysis between desired percentage and actual percentage of calorie intake by hard core poor, poor and non-poor from carbohydrate, protein, fat and vitamin is given in Table 6.

Table 6: Food Element-wise Comparison between Desired and Actual Food Intake and Calorie Intake by Poverty group

Food Item	Percentage of Desired Calorie Intake (DDP)	% of Actual Calorie Intake (HIES 2010)		
		Hard core Poor	Poor	Non-Poor
Carbohydrate	60%	78.58%	79.39%	78.33%
Protein	13.5%	6.70%	6.61%	7.24%
Fat	11%	10.00%	9.39%	9.79%
Vitamin	4%	4.71%	4.61%	4.64%

Source: Author's calculation from HIES 2010 and Desirable Diet Pattern, BIRDEM 2013

According to the percentages provided in the Table 6 all the poverty groups are deriving much higher percentage of calories from carbohydrate compared to the desired percentage to their total calorie intake. Again percentage of calorie intake from vitamin is slightly higher than the desired level by all poverty groups. Percentage of calorie intake from fat is slightly lower than the desired level by all poverty groups. On the other hand percentage of calorie intake from protein is considerably lower than the desired level by all poverty groups.

Distribution of Population as per Nutrient Intake

In a study on rural Bangladeshi population, it was noted that 17% of the studied population was overweight and 26% were obese [20] which may be a reflection of higher carbohydrate intake by the people. Forty per cent of the population takes less than 10% of total energy from protein sources and 53% of the population take less than 15% of total energy from fat [19]. Low protein and fat intake are the plausible factors implicated in the low birth weight prevalence which is 22% (WHO, 2012), 41% of stunting, 16% of wasting, 36% of under-weight (BDHS, 2011) and thinness i.e. 30% of the women have BMI less than 18.5 (BDHS, 2007). These findings reflect the presence of under-nutrition in Bangladesh attributed to disproportionate consumption of carbohydrate, protein and fat intake. Table-9 given below shows the percentages distribution of population as per nutrient intake.

Table 7: Percentages Distribution of Population as per Nutrient Intake

Macronutrients	Carbohydrate			Protein			Fat		
Range of intake (%)	<55	55-75	>75	<10	10-15	>15	<15	15-30	>30
% Population	16.3	43.3	40.3	40	50	10	53	44	3

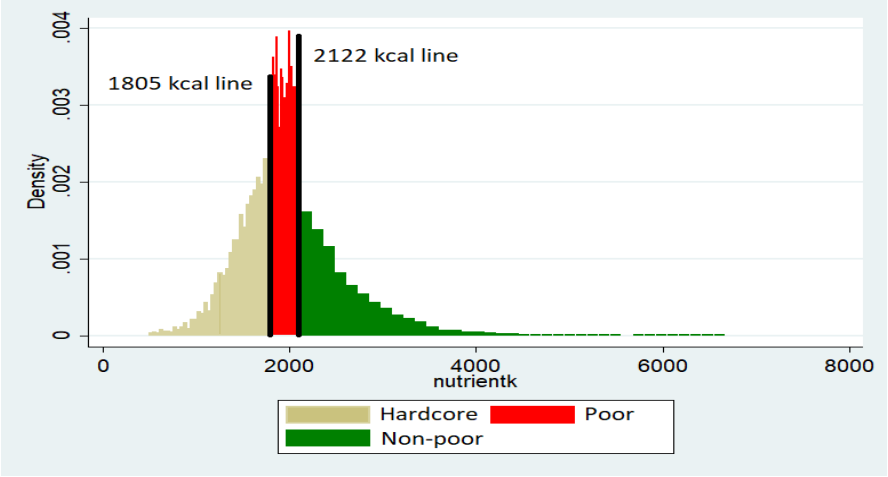
Source: Quamrunnahar *et al*, Desirable Dietary Guideline, BIRDEM, 2013. [19]

According to the Table 7 significant percentage of people depends on carbohydrate for their calorie need and the percentage contribution of carbohydrate is higher than the required. On the other hand significant percentage of people receives less protein compared to the required percentage. Same observation is also found in case of fat intake.

Distribution Pattern of Calorie Intake by Poverty groups

Distribution of calorie intake pattern by the three poverty groups can be analysed more clearly using histogram. Figure 2 shows the distribution of calorie intake by the three groups.

Figure 2: Distribution of Calorie Intake by Poverty groups



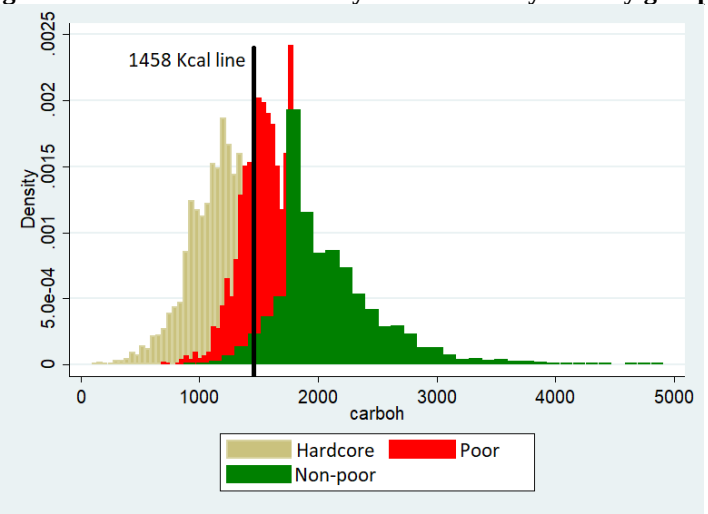
Source: Authors Derivation from HIES 2010

Figure 2 shows that there are significant number of non-poor households who consume more than 2122 kcal per day while there are quite a large number of hard core households that consume less than 1805 kcal per day (as shown by the tails of the histogram) and the rest in the middle are poor households.

Distribution Pattern of Carbohydrate Intake by Poverty groups

As mentioned earlier recommended calorie intake per capita per day by FAO and DDP is 2430 kcal. Again according to DDP recommended carbohydrate intake is 60% of 2430 kcal. Therefore recommended carbohydrate intake is 1458 kcal per capita per day. Figure 3 shows distribution pattern of carbohydrate intake by poverty groups.

Figure 3: Distribution of Carbohydrate Intake by Poverty groups



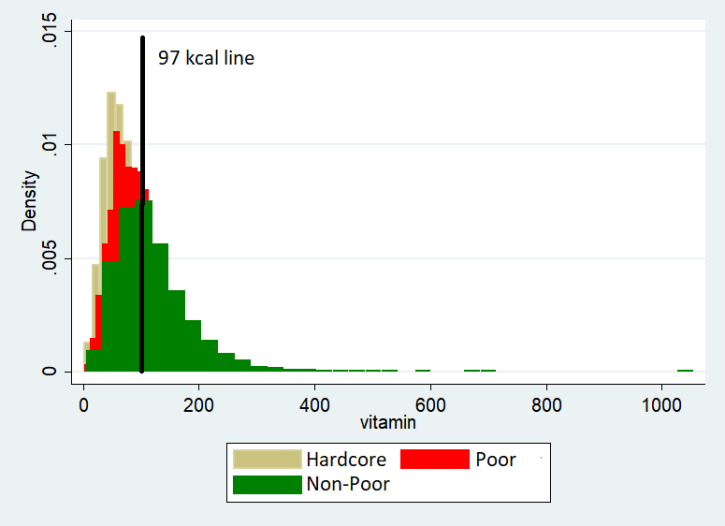
Source: Authors Derivation from HIES 2010

Figure 3 shows almost all the households of non-poor group and significant number of poor household also receive take more carbohydrate than the recommended amount. All the hard core poor households take less than the recommended amount.

Distribution Pattern of Vitamin Intake by Poverty groups

According to DDP recommended vitamin intake is 4% of 2430 kcal. Therefore, recommended vitamin intake is 97 kcal per capita per day. Figure 4 shows distribution pattern of vitamin intake by poverty groups.

Figure 4: Distribution of Vitamin Intake by Poverty groups



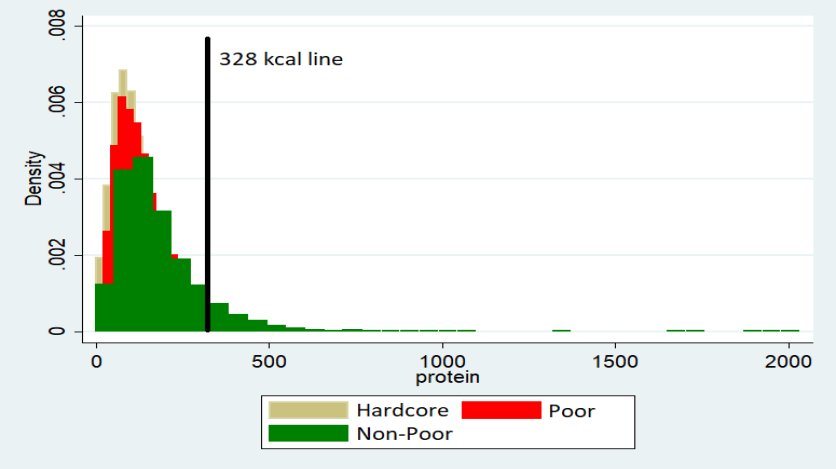
Source: Authors Derivation from HIES 2010

Figure 4 shows almost all the households of poor group and all hard core poor household take vitamins less than the recommended amount. On the other hand a significant number of non-poor households take vitamins less than the recommended amount.

Distribution Pattern of Protein Intake by Poverty groups

According to DDP recommended protein intake is 13.5% of 2430 kcal. Therefore, recommended protein intake is 328 kcal per capita per day. Figure 5 shows distribution pattern of protein intake by poverty groups.

Figure 5: Distribution of Protein Intake by Poverty groups



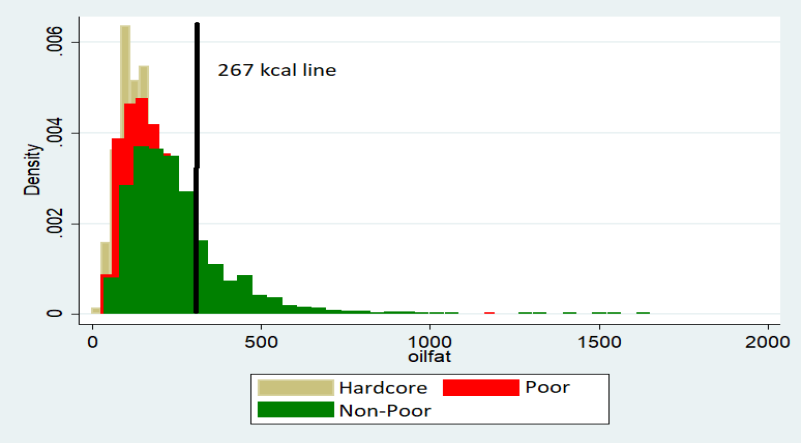
Source: Authors Derivation from HIES 2010

All the poor and hard core poor households take protein much less than recommended amount. Again it is important to note that a significant number of non-poor households take protein less than recommended amount.

Distribution Pattern of Fat Intake by Poverty groups

According to DDP recommended fat intake is 11% of 2430 kcal. Therefore, recommended fat intake is 267 kcal per capita per day. Figure 6 shows distribution pattern of fat intake by poverty groups.

Figure 6: Distribution of Fat Intake by Poverty groups



Source: Authors Derivation from HIES 2010

All the poor and hard core poor households take fat much less than recommended amount. Again it is important to note that a significant number of non-poor households take fat less than recommended amount.

Percentage of Household Receiving Desired Nutrient Intake

Table 8 shows percentage of households receiving desired nutrients by poverty groups.

Table 8: Percentage of Household Group above the Desired Level of kcal Intake (per capita per day)

Household Group	Total Calorie Intake	Carbohydrate Intake	Protein Intake	Vitamin Intake	Fat Intake
Hard core Poor	0.0%	8.5%	1.4%	22.7%	10.9%
Poor	0.0%	69.5%	3.0%	40.3%	19.1%
Non-poor	55.4%	96.7%	10.8%	58.3%	34.2%
Total	24.8%	62.1%	5.9%	42.7%	23.2%

Source: Authors Calculation from HIES 2010

According to Table-8 none of the households from poor and hard core poor able to intake the recommended calorie and only 55.4% of non-poor households are receiving the desired calorie. Huge difference exists in carbohydrate intake more than the required amount between hard core poor; and poor and non-poor households. In case of percentage of population receiving less than the recommended amount for vitamin, fat, and protein intake is also very high.

CONCLUSION

The analysis presented above shows that a significant contribution of cereals (carbohydrate) in the consumption of all poverty groups which indicate a cereal based consumption behaviour of the people of Bangladesh. If the average recommended calories are being achieved through consumption of excessive cereals or carbohydrate, it is obvious that there is failure to attain essential nutrients rich foods. The persistence of this kind of consumption behaviour will produce a population with ill health and less productive. For a country like Bangladesh where poor performance in productivity is a concern for economic development, the country is not in a position to compromise it. The changes in the food-consumption pattern are pervasive and will definitely move towards high-quality food commodities in the long-run with the increase in income, urbanization, and perceptions of consumers regarding food quality, safety and health.

Irrespective of economic condition all people are showing similar consumption pattern. They depend on carbohydrate for providing the major part of their calorie need and rely on protein for very insignificant amount for the same. It implies that the gap between the recommended amount and national average is highest in case of protein in Bangladesh. Consumption pattern is the outcome of the food consumption behaviour or food habit. Consumers behave in the same pattern irrespective of their residence and economic condition as evident from the above analysis of consumption pattern of Bangladesh.

In Bangladesh only 24.8% people of total population and 55.4% of non poor receive calorie more than the desired level. Percentage of people to total population receives carbohydrate more than the desired level is 62.1. The same ratios for non poor and poor group are 96.7% and 69.5% respectively and for hardcore poor it is very low. Percentage of people receiving protein and fat is very low and it is also manifested among all poverty groups. Although

percentage of people having carbohydrate more than the desired amount is high at overall level and among poor and non poor group, percentage of people receiving desired calorie and other nutrients i.e. protein, vitamin and fat are very low among all poverty groups.

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